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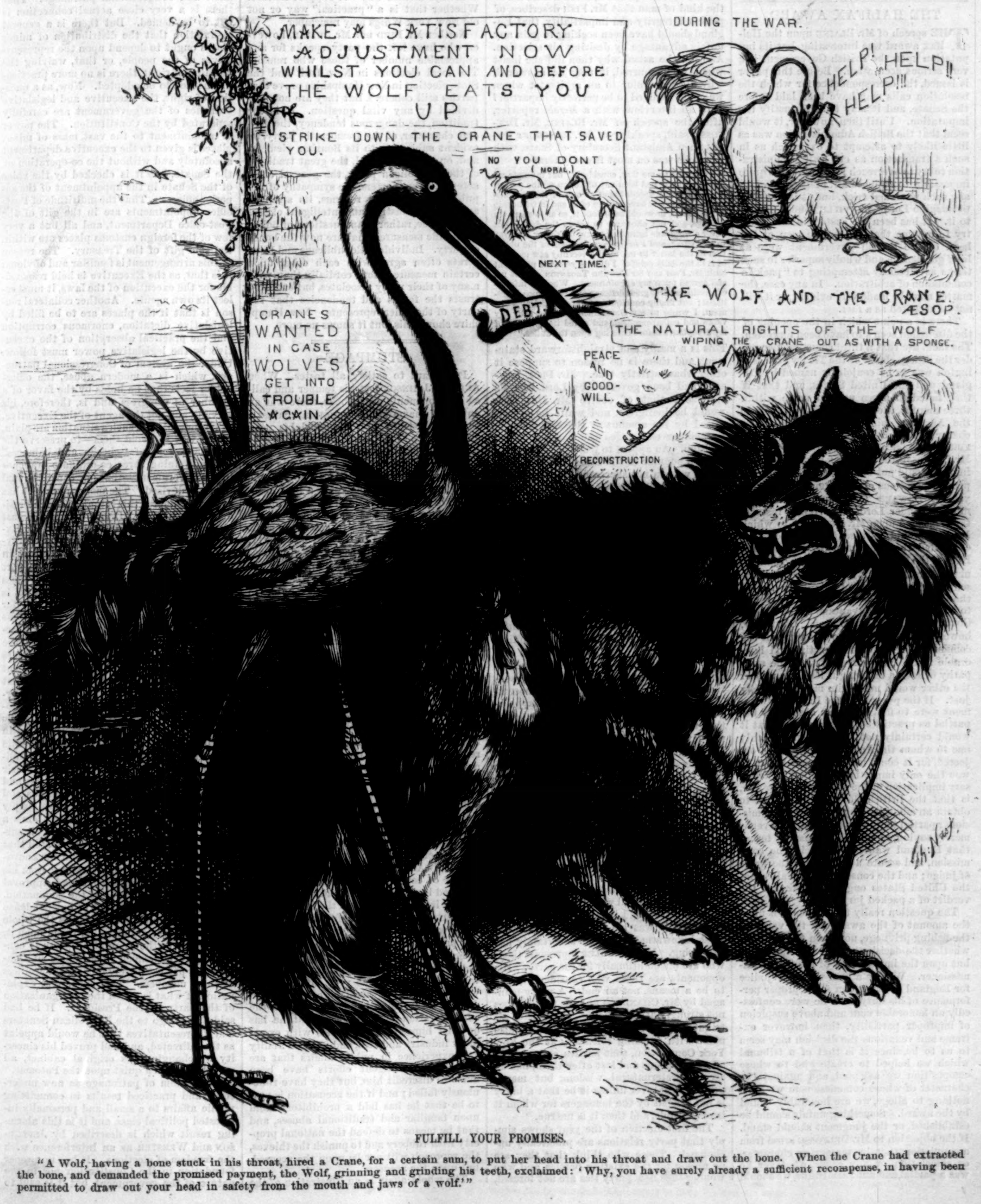
MAKE A SATISFACTORY ADJUSTMENT NOW WHILST YOU CAN AND BEFORE THE WOLF EATS YOU UP
STRIKE DOWN THE CRANE THAT SAVED YOU.
NO YOU DONT (MORAL.)
NEXT TIME.
DURING THE WAR.
HELP! HELP!! HELP!!!
THE WOLF AND THE CRANE. ÆSOP.
THE NATURAL RIGHTS OF THE WOLF WIPING THE CRANE OUT AS WITH A SPONGE.
PEACE AND GOOD-WILL.
RECONSTRUCTION
DEBT.
CRANES WANTED IN CASE WOLVES GET INTO TROUBLE AGAIN
Th. Nast

FULFILL YOUR PROMISES.

"A Wolf, having a bone stuck in his throat, hired a Crane, for a certain sum, to put her head into his throat and draw out the bone. When the Crane had extracted the bone, and demanded the promised payment, the Wolf, grinning and grinding his teeth, exclaimed: 'Why, you have surely already a sufficient recompense, in having been permitted to draw out your head in safety from the mouth and jaws of a wolf.'"

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HARPER'S WEEKLY.

Saturday, March 30, 1878.

☞ *The* Illustrated Supplement *sent out gratuitously with this Number of* Harper's Weekly *contains a spirited double-page engraving from* Mr. Stanley's *African sketch-book, an entertaining story, and other attractions.*

An Illustrated Supplement *will be issued gratuitously with the next Number of* Harper's Weekly.

THE HALIFAX AWARD.

THE speech of Mr. Blaine upon the Halifax award was interesting, but its imputation upon the British Government is a very serious accusation. Before this paper is issued, the correspondence for which the resolution calls may have been laid before the Senate, and it may tend to justify the imputation. Until then, however, it would seem that the British Administration was as little likely to attempt to overreach us in such a transaction as our own Administration to try to overreach England. It is quite impossible to suppose Mr. Fish engaged in any such wretched trick, and it is not easy to imagine Lord Granville condescending to it. It has been the custom in this country to assume that the public men at the head of the British Government were at least gentlemen, and wholly superior to such tricks as virtually attempting to "pack" a commission of arbitration. In any case, the matter must be made very evident, or it will not be accepted as a fact.

There is a point which in the opening of the discussion seems to have been forgotten. The facts are that a third commissioner under the fishery clause of the Treaty of Washington was to be conjointly named by England and the United States, and that if they failed to agree upon a name within three months, the decision was to be left to the Austrian minister in London. The charge is that Lord Ripon, and Lord Dufferin in Canada, having said that of course Mr. Delfosse, the Belgian minister at Washington, would not be named, because of the peculiar relations of Belgium and England, yet Sir Edward Thornton, the English minister, under Lord Granville's instructions, insisted upon Mr. Delfosse, to which Mr. Fish would not assent. This dickering exhausted the three months, when Count Beust, the Austrian minister in London, named Mr. Delfosse, and Mr. Fish then assented. The purpose of this delay and of the appointment of Mr. Delfosse is assumed to be to secure an advantage to the British Government in the arbitration. Obviously, however, there could be no advantage if the commissioner were an impartial and honorable man. The very fact that the sympathy of such a man might lean one way or the other would make him more rigorously just. If the purpose of the British Government were to find a man as absolutely impartial as practicable, it is assumed that it would certainly not insist upon the only one to whom the American authorities objected, for it could not be assumed that he was the only impartial judge. The necessary implication of the statement, therefore, is that the British Government wished to obtain an advantage by securing a commissioner partial to its views. This, however, is merely saying, in carefully measured terms, that England wanted to "pack" the commission, and secure a tool under the name of judge; and the consequent appeal is that the United States ought to disregard the verdict of a packed jury.

The question really turns, then, not upon the amount of the award nor the value of the fishing privilege, nor upon the question whether the decision should be unanimous, but upon the impartiality of the third commissioner. Was he a man whose prejudice for England unfitted him for a proper performance of his duty? If he were confessedly an honorable man and above suspicion of improper partiality, then, however extreme and vexatious the decision may seem to us to be, since it is that of a tribunal which we helped to create and to whose composition we assented, and against the character of whose commissioners we have nothing to allege, we are honorably bound by the award. Something unfair should be established, or the judgment should stand. If the objection to Mr. Delfosse arose from a conviction that by temper, or character, or association, or any cause whatever he was a partial and unfit arbitrator, we should have protested at the time. By acquiescence without remark we accepted him as a fit judge, and as it is to be presumed that if the award had been favorable we should not have resisted it, we can hardly resist because it is unfavorable. It is interesting, therefore, in estimating the fitness of the commissioner, to observe that Mr. Blaine says that he does "not wish to cast reflections upon Mr. Delfosse, who is known as an honorable representative of his Government." Mr Fish, however, goes farther. As Secretary of State he acted for the United States in assenting to the appointment of Mr. Delfosse, and he says, decisively: "As to Mr. Delfosse, I believe him to be a man of great intelligence and perfect integrity and impartiality. If I had a dispute about some valuable property, I would not hesitate to call in Mr. Delfosse as the arbitrator." Thus Mr. Fish does not question the fairness of Mr. Delfosse, and he ascribes the result to the perjury of witnesses. It is impossible, if Mr. Delfosse be the kind of man that Mr. Fish describes, of perfect integrity and impartiality, that England should have been seeking to gain any unfair advantage by desiring his selection. And if it be asked why then did she insist when we demurred, it may be answered, why did we demur to an arbitrator whom we acknowledged to be perfectly impartial?

In an interview with a *Herald* reporter, after the speech of Mr. Blaine, Mr. Delfosse said, speaking of Mr. Bancroft Davis, then Assistant Secretary of State, with whom he was on most friendly terms:

> "It seems to me that, considering our intimate relations, if there had been any objection on the part of Mr. Fish to my appointment as one of the commissioners, he should have spoken of it, and in friendship to me I think he would have done it, so as to spare my feelings, and not allow me to act in the dark. But never a word was intimated to me by him or Mr. Fish to this effect, and I never even dreamed of the objection of the latter to me until I recently saw mention of it in the daily prints. I did not seek the place, but both Mr. Fish and Sir Edward Thornton sought me and agreed upon my appointment. When so informed, feeling at first great delicacy and reluctance, I hesitated; but finally concluding to accept the appointment, I wrote to my Government, stating fully my views and embarrassment, and asked its approval of my acceptance before entering upon the duties."

This is a manly and straightforward statement, and there is no reason to suppose it other than strictly true. Mr. Fish, however, had been governed by Lord Ripon's statement that of course Mr. Delfosse would be ineligible, and while he is surprised by the amount of the award, he in no manner challenges the honesty of the decision. An appeal to jealousy of England may be popular in the Buncombe districts; but if we can not successfully impeach the tribunal, our dissatisfaction with the award as unjust is no reason for disregarding it, although it may persuade us to avoid arbitration hereafter.

THE NEW HAMPSHIRE ELECTION.

The result of the New Hampshire election shows that the old party traditions are still strong. The Republicans carry the State against a popular Democratic candidate and both a Greenback and a Prohibition nomination. The explanation is evident enough. It is that in the present situation no intelligent Republican sees that any thing is to be gained by Democratic success. Although party lines disappeared in the silver debate, there is no doubt that the unsound taint is quite as deep, if not far deeper, in the Democratic than in the Republican party; and no man who sees the necessity of reform seriously expects it from Democratic ascendency. The significance of the New Hampshire election is therefore negative. It is, at least, plain that dislike of the President is not so strong as trust in the party, or the anti-Administration Republicans would have defeated a ticket nominated with so warm an approval of the Administration. It is reported that Mr. William E. Chandler, notwithstanding the virtual censure of the Convention, subscribed liberally and went home from Washington to vote, and it is added with bitterness that it was his opponents who were most lukewarm. But that is certainly not surprising. Mr. Chandler represents those who are unconditionally for the party. His opponents are those who consider a party to be a means, not an end. A party managed by Mr. Chandler and his friends does not strongly attract them. The remark attributed to Mr. Chandler, which was also made with amusing solemnity at the New York Convention, that parties come before administrations and last after them, has an air of preternatural wisdom, but means nothing whatever unless it be that a party is not judged by the managers for whom it is responsible, and then it is untrue.

The first election of the year shows simply that party relations are practically unchanged. Those who think that they see no reason for the existing parties, and who wonder that new party ties are not formed, must not forget the cohesive force of mere habit, and that the initiative of change must be Republican. But it will not be taken by any considerable number until they are willing to insure Democratic success. Mr. Bird, of Massachusetts, an old abolitionist and Republican, says that he lives politically to break down the infernal Republican party. If he believes that the Democratic party will do better than the Republican, he does well in actively supporting it. But if it be a mere choice of evils, he ought to abstain from both. The virtue that votes for a rogue in order to defeat a rascal betrays itself. Mr. Julian, of Indiana, also—another old abolition Republican—has no mercy upon the party. But whatever he may allege against the Republican, he certainly can not establish the claims to confidence of the Democratic party, and a gentleman so intent upon pure politics will hardly assert that there is but one practical alternative, namely, to support one or the other. There is always a third way—to support neither. Whether that is a "practical" way or not old New York Whigs may remember.

Neither Mr. Bird nor Mr. Julian, however, who have left the party, speaks for any appreciable number of those who remain. The local elections in New York and the State election in New Hampshire prove that parties still cohere. But they are not now divided by any vital question. It is the tradition, the dangerous tendency, the general character, of the Democratic party, its evident subjection to its Bourbon element, and, on the other hand, the great tradition of the Republican party, the general character of its supporters, the sympathy of Republicans with real reforms, its strength among the industrial and intelligent classes—it is these, rather than questions of policy or specific measures, that are now the bonds of party. Individual Republicans and Democrats often agree with each other upon certain measures more cordially than with many of their party associates, but each distrusts the forces and tendencies that the party of the other represents. New Hampshire shows this, but it shows no more.

STUMPAGE.

It is hard to satisfy all tastes. When Andrew Johnson lost his temper and called his opponents dead ducks, there was an outcry of shame and indignation against a Chief Magistrate who disgraced his position. And now that Mr. Hayes, amid every kind of irritating hostility, carries an even mind, he is denounced for his amiable complacency, and besought to get angry. So there has been for some years a loud accusation of extravagance and even corruption in administration, but when the Secretary of the Interior proposes to assert the right of the United States to their own property, he is assailed as if he were guilty of gross offense. The story is very simple. It appears that in certain Territories where there are large forests upon lands belonging to the United States it is a practice to steal the wood by thousands of cords, and to found a business upon the robbery. It is stated that in some places saw-mills are built to shape the plunder for market, and that theft is thus organized into an apparently respectable and certainly profitable trade. If the Government has any obvious duty, it is to protect its own, or, in the cant of stump oratory, "the people's," property.

Apprised of this system of theft, the Secretary of the Interior issued instructions to require payment for the wood. He named a price, which may be large or small, but the principle of his action is incontestably right. It is his duty to see that the government, within his jurisdiction, is not defrauded, and his action deserves praise and not blame. Yet he has been arraigned as if he had done some wrong. The Interior Department, under Mr. Delano, during part of the late Administration, was strongly suspected of covering a state of things that required investigation and correction. The inquiry into the conduct of the Indian agencies certainly did not satisfy the public that there was no reason for suspicion. When the present Secretary came in, the feeling of hostility to him among many leaders of the dominant party, who had found no fault with Mr. Delano, was very bitter, and it was clear that he would be criticised and derided rather than helped by them in the administration of his office. But he has devoted himself to his duties with exemplary industry and zeal, and with an ability and experience in public affairs that are undeniable. Diligent efforts have been made to discredit him, but they have ridiculously failed; and if the accusation is now to be that he has laid a prohibitory hand upon familiar and traditional abuses, and that he means to defend the national property from robbery and to punish the thieves, the reproach will not be upon the accused, but upon the accusers.

The whole affair is an illustration of the condition of our politics. They are largely personal. It is personal dislike of the Secretary of the Interior that betrays itself in such remarks as were made in regard to the bonds of General Coster and upon the question of "stumpage." The same thing is evident in the comments of the press which echo the tone of Mr. Chandler's letter, and of much that is said in Congress. The situation is a touch-stone. The pressure of the questions upon which parties were formed being removed, personal feelings may be expressed to the utmost. But it is satisfactory to know that high officers of the government do not intend to connive at frauds and robberies.

PARTY AND PATRONAGE.

A late excellent article in the New York *Times* points out the fact that it is a mistake to suppose that there is any rightful and necessary connection between party government and Congressional patronage. That there is a very close actual connection is not to be denied. But there is a general assumption that the distribution of minor places ought to depend upon the representatives of the people, or that, waiving the question of right, there is no more practicable method to be adopted. Now, as a question of right, the executive and legislative branches of the government are carefully separated by the Constitution. The power of appointment to the vast mass of minor places is given to the executive department absolutely and without the co-operation of the Senate, but it is checked by the voice of the Senate in the appointment of the superior officers. Thus the multitude of Post-office appointments are in the gift of the Post-office Department, and all but a very few of the foreign customs places are within the sole gift of the Treasury. The reason of this arrangement is familiar and obvious: it is that, as the Executive is held responsible for the execution of the laws, it must select its own agents. Another collateral reason is that if the places are to be filled by legislative dictation, enormous corruption and the practical absorption of the executive by the legislative power must follow. Under the system of Congressional patronage, which is a modern abuse, the office-holder feels that he holds by the favor of a member of Congress, and is, therefore, his servant, and not the agent of the Executive.

The mischiefs of such a situation are plain, and it was to avoid them—to preserve the famous system of "checks and balances" by maintaining three co-ordinate branches in the government—that our constitutional plan was devised. The modern practice has so far endangered this intention that a President who, like Mr. Hayes, asserts the just and constitutional independence of the Executive, is accused of deserting and betraying and disorganizing his party. Just in the degree that such action upon the part of the chief of the executive power does produce that result, the actual situation is revealed. In other words, it shows how far the original system of the government has been impaired. If the great body of office-holders felt that they depended upon the Executive and not upon Congress, the mere Executive assertion of that truth could not demoralize or disintegrate the party. That result is produced by the fact that party organization is now based upon the assumption that the Executive will of course be guided by Senators and Representatives in making appointments. It inevitably results that the office-holders who directly or indirectly manage the party politics in their various States look up to their Senators and Representatives as their supreme heads, and have come to regard the Executive simply as an instrument of those heads. Thus a recent nomination was reported as "a surprise to the Senate," and it was stated that the person was selected "without the knowledge or approval of the Senators" from his State, as if that knowledge and approval were rightful conditions of the nomination. The President's declaration of independence of this practice of course shakes the whole system of party organization based upon it, and wherever the Republican party is controlled by henchmen of members of Congress, its protest merely reflects the feelings of those members. This is the real explanation of what is called the disorganization of the party by the President. If he had said a year ago to the Republican Senators and Representatives that he would appoint as they directed, and had proved his sincerity by changing his original cabinet, all would have been quiet upon the Potomac.

The system of patronage as now understood and practiced results in committing public affairs to a small and personally interested political class, and it is this alarming result which is described by Jefferson and Webster as an interference with the freedom of elections. It has no proper foundation in the Constitution nor in the nature of the government, but it is said to be inevitable and convenient and practicable. That it is inevitable, except as all abuses are inevitable where there is a want of diligence, can not be proved, and is untrue. That it is practicable is certainly proved. And that it is convenient for patronage-mongers, but not for the public, we admit. The plausible plea is this: The country is so extensive, and there are so many places, and the appointing power is necessarily so ignorant in any particular case, that its obvious and almost necessary recourse is to the member of Congress from the district in which the place is to be filled. And who so good a dictator as the man whom the people have chosen to be their representative?

The answer to this is involved in all that we have said. It is, in brief, that the practice defeats the constitutional purpose of a separation of executive and legislative powers; that it intrusts the appointment to an interested person; that it stimulates bargain and corruption, and consequently demoralizes politics. The true plan in such cases is to provide a system by which, so far as practicable, mere personal interest shall not decide, which by a just promotion will place the great multitude of places beyond contest, and which will make faithful service the official tenure. The stereotyped reply to such suggestions is that which was made by Judge Woodward in Congress eight years ago: *Quis custodiet custodes?*—how can you get any honester judges than Representatives? That is a reply which disposes of itself, since it is plain that in their case there is a palpable interest in bargains which there is not in some other plan. Of course in any reform of the present system the President's exclusive power is exceedingly limited. The minor appointments are made by those whom he appoints, but he appoints only with the consent of the Senate, and it is the Senate which has largely fostered the abuse that is to be corrected. The most conspicuous effort at real reform that the President has made—the nomination of Mr. Roosevelt—was resisted and defeated in the Senate. The President is accused of inconsistency in his civil service action. But had his action in the matter been of unbending consistency, is it supposed that Mr. Roosevelt would have been confirmed? He was opposed not because of personal hostility, except on the part of one Senator, nor of inconsistency upon the part of the President, but under the plea that the incumbent was a good officer. Does any body believe that to have been the reason of the defeat? Senators who urged the plea had not hesitated to confirm the nomination of henchmen of their own to places held by perfectly efficient incumbents whose terms had not expired. It was the Executive independence at which they aimed—and which fortunately they did not hit. Meanwhile the duty of all who sincerely desire a correction of the notorious evils of the system is not to be disheartened by arrogance or pretense, ignorance or ridicule, or affectation of impatience of cant, on the part of the noble army of spoilsmen, but to weigh all difficulties, to be patient of all delays and short-comings, and to stand fast.

SAFETY ON FERRIES.

The Attorney-General of the State, in reply to the resolution of Mr. Brooks, of which we spoke last week, has given this opinion:

> "The conclusion deducible from the cases cited, and others, is that the States have power to enact all inspection, quarantine, pilotage, and police laws necessary for the protection of health and life, the safety of persons and property within their jurisdiction, and that regulations relating to the speed of vessels and the use of fog-signals and lights in the night-time or in fogs are within the legitimate police power of the State, and may be enforced by appropriate penalties and by proceedings in the State courts."

We hope that Mr. Brooks will now introduce a bill to secure the safety of passengers upon ferries by the use of electric lights or such other protection as shall be found useful; so that if the ferry companies should not act promptly in making such provision without legal compulsion, that compulsion may be applied. It is, indeed, for the interest of ferry companies and stockholders that the passage should be secure, but experience shows that interest alone is not enough to secure this result. It is the interest of a man not to abuse his horse. But many a man whose horse is his chief reliance for a livelihood often beats him furiously and injuriously. Men are selfish, but, as a moralist well observes, they act as often from motives of self-indulgence as of self-advantage. And this is true of associations of men or of single proprietors. Every great accident of travel is apt to reveal a want of the care which it was the interest of the company to take. But the fact that it was undoubtedly its interest did not secure the provision.

This is the fact which weakens the "let-alone" principle of government as the most adequate and complete. It is often serviceable, but to make it an inflexible rule is to run needless risks, and often to incur certain disaster. Mere self-interest is not accepted as a sufficient defense against possible public injury, because there can be no security that a man will agree that his interest demands a strict regard to the safety or welfare of the public. A man who undertakes the manufacture of powder may consider that his interest will authorize him to take the risk of explosion. It is the knowledge of that fact which justifies legal restrictions upon the making and storing of powder. Ferries are doubtless often run at a loss. But however that may be, a community which can reach the city for its daily work only by a ferry, has the right to require that those who choose to undertake the ferry shall take every possible precaution for safety from the necessary dangers of the passage.

The United States Steamboat Inspectors have reported to the Supervising Inspector that nobody was to blame for the collision of the foreign steamer *Spain* and the Staten Island ferry-boat *Castleton*, and it is stated that Captain Bunn, of the *Castleton*, whose coolness and skill alone saved hundreds of lives which the moving of the *Spain* in so dense a fog had imperilled, "is exonerated from all blame!"

WAR CHANCES IN EUROPE.

Public and private accounts from England agree in saying that the feeling on the Russian question is very intense. The London mob, that truly patriotic and conservative institution, has broken up peace meetings, smashed Mr. Gladstone's windows, and assailed him on his way to church; and the very people whom Mr. Bradlaugh probably held to be his fellow-republicans have cudgelled him soundly, and driven him away from the place where he had been speaking. Mr. Smalley writes to the *Tribune* that Tory agents have been sent into the provinces to stimulate and organize a war sentiment. Meanwhile some warlike Liberals would gladly see Mr. Gladstone hanged, and some warlike Tories rage against Lord Derby, and both for the same reason—that neither of those gentlemen wishes to plunge England and Europe into the immeasurable calamity of a general war. Even the *Times*, which has been moderate and pacific, feels the pressure of opinion, and now declares that Russia must submit every clause of the treaty with Turkey to the approval of Europe. The Turkish press in England has been at a white heat throughout the war, and there is no doubt that with Lord Beaconsfield willing to go to war, and the Queen, the mob, and the clubs on his side, a great deal of mischief is still possible, and nothing can be deemed settled until the Conference has met and dissolved.

To a foreign observer, however, it is evident that much of the acrid hostility to Russia springs from the consciousness that it is the conduct of the ministry which has given Russia her immense advantage. Had England made common cause with Russia and the other powers in compelling Turkey to do what was required, the war would have been avoided, England would have retained her hold upon Turkey, and Russia would not have earned the rights of a victor. It is doubtless some perception of the disagreeable fact that Russia has fairly "walked round" England, yet without a word of insult or a blow at any legitimate English interest or right, that exasperates the party which hates Gladstone and admires Disraeli, yet sees that Gladstone was the wiser man, whose policy would have saved the credit and heightened the glory of England. If the London mob wished to stigmatize the real responsibility for the situation, it would smash the Beaconsfield windows. But the only resource now left to the anti-Russian party is to rouse the gall of John Bull and cry for war.

It is evident from the Russian news that the feeling in St. Petersburg is hardly less strong than that in London. A Government paper sneeringly asks why states that took no part and spent no money or lives in the war should now insist upon settling the result. Austria, also, is plainly suspicious and disturbed as to Russian action, while in Berlin the Government papers announce that the Dardanelles must not become Russian property. We presume the probability to be that Russia will submit the question of the straits to the Conference, and perhaps that of the Bulgarian government. But it can not be seriously expected that at the close of a tremendous war, in which she is unconditionally triumphant, she will ask Europe to revise every stipulation in the treaty that she makes with her vanquished enemy. If England should be so ill advised as to offer this as the alternative of war, she could hardly carry the opinion of Europe with her, as against a Russian proposition to consider the really European interests involved. We still think that the sagacity which has unquestionably directed Russian conduct so far will not suddenly vanish now, and therefore, however menacing the situation may at any moment seem to be, there is good reason to suppose that the peace of Europe will not be disturbed.

PERSONAL.

It is seldom that one sees in the financial columns of a New York daily paper a "personal" like the following, copied from the *Commercial Advertiser* of March 12: "Mr. Keene [who came recently to New York from California, and is now one of the leading operators on the Stock Exchange] has generously settled an annuity equal to the interest on $50,000 on his friend Mr. Samuel Ward, the principal to revert to Mr. Keene's family on the death of the annuitant. Mr. Ward has been of constant service to Mr. Keene in his Stock Exchange speculations through a season of wide and critical fluctuations."

—A late number of the Louisville *Courier-Journal* contains an eloquent eulogy, delivered in the Medical Department of the University of Louisville, on the late Dr. L. P. Yandell, Sen., one of the most eminent scientists of the South. The eulogy was pronounced by Dr. T. S. Bell, whose fine abilities and intimate acquaintance with Dr. Yandell peculiarly qualified him for that duty.

—A translation of Autenrieth's Homeric Dictionary into Modern Greek is about to appear at Athens. In the announcement of this translation special attention is called, as a proof of the merit of the original work, to the translation recently made in America by Dr. Robert P. Keep, and published by Harper & Brothers. Dr. Keep is receiving warm congratulations from scholars at home and abroad upon having made Autenrieth's very useful dictionary accessible to American and English youth, and a distinguished Oxford classical editor expresses the hope that the plan pursued in Autenrieth's Homeric Dictionary, of illustrating from antique and other pictorial sources, may be made of more and more frequent use in our school-books.

—Caleb Cushing has long been known to be a man of considerable wealth, won by the exercise of his very high legal acumen and general knowledge of men and affairs. The *Herald*, published at Newburyport, Massachusetts, where Mr. Cushing resides, mentions a case of unusual magnitude which has been managed by him—that of Don Joaquin Garcia de Angarica, who died in this city a few days since at the age of eighty-eight. The Don left Cuba in 1868, on the breaking out of the revolution, he being with the Cubans. His estate was confiscated by the Spanish government. Mr. Cushing recovered it for the Don, and received for his services $300,000, or one-third of the value. Another similar claim for $2,000,000 has been made, with good prospect of success, in which case Mr. Cushing will be able to take rank among the millionaires.

—Mr. Best's investigation into the affairs of the Union Dime Savings-bank has brought to light a manly and characteristic letter from Thomas Nast. It appears that in 1869 Mr. Orvis, then chairman of the Finance Committee of the bank, demanded $5000 as compensation for services, and the trustees compromised for $2000. This payment seems to have caused a great deal of indignation, and resulted in the resignation of Mr. Nast, who, "not caring to belong to a savings-bank ring," sent the accompanying letter to the Board of Trustees:

"West One-Hundred-and-Twenty-fifth Street,
near Fifth Avenue, New York, *May* 11, 1869.

"*To the Board of Trustees of the Union Dime Savings-bank:*

"Gentlemen,—I have always understood through you that this was a charitable institution, conducted with a single eye to the interests of the poor, our depositors, and that the trustees willingly gave their services gratuitously for that purpose; but the resolutions that were passed at your last regular monthly meeting prove it to be a charitable institution for the trustees. You speak eloquently of gathering the crumbs of the poor, but it appears to me that after they are gathered you put them into your pockets. Therefore, not caring to belong to a savings-bank ring, I tender you my resignation, and remain,

"Yours respectfully, Thomas Nast."

—The late Edward Everett's housekeeper died a few days since, leaving an estate valued at about $40,000, which she bequeathed to Mr. Everett's son William.

—The largest land-owner in California is a Mr. Higgin, who owns 187,281 acres, covering over 292 square miles, in Kern County. There are only five British peers who own larger tracts than Mr. Higgin.

—The Rev. Dr. Tyng, who is about to retire from the rectorship of St. George's Church, says: "It is one of the follies of the age, this thing of old men clinging to places that belong to younger men. Our young men of great ability and energy are kept back by old men, who occupy the best places. In my own youth I took this view of the matter, and I have the same feeling now."

—General Simon Cameron celebrated his seventy-ninth birthday at Harrisburg on the 8th inst. He is as healthy and active as most men at forty, takes a lively interest in public affairs, and is quick at repartee and fond of anecdote as ever. General Cameron commenced life as a printer. In 1845 he was elected to the United States Senate, serving until 1849, and was re-elected in 1857 for the term ending in 1863, but resigned in 1861 to become Secretary of War. In 1862 he was appointed minister to Russia. In 1867 he was again elected to the United States Senate, and re-elected in 1872. In March, 1877, he retired, to make room for his son Don Cameron, thus keeping the Senatorship in the family, after the manner of the Bayards, of Delaware.

—Apropos of Mr. Bayard Taylor's appointment as minister to Germany, Mr. Thurlow Weed, who has such a wealth of pleasant reminiscences of public men, sends the following, connected with the appointment of Washington Irving as minister to Spain: "In the summer of 1842 I was at Washington in company with the late Moses H. Grinnell, Richard M. Blatchford, and Simeon Draper. We dined with Mr. Webster, then Secretary of State. I need not say that the dinner, like many others I have enjoyed with that eminent statesman, at his own table and at the tables of mutual friends, recalls charming memories. Having disposed of the solids, and while partaking of fruit and Madeira, Mr. Grinnell said, 'I have a great favor to ask of you, Mr. Webster.' '*You* can ask no favor which will not be promptly granted,' responded Mr. Webster. 'In completing his *Life of Columbus* Mr. Irving finds it necessary to have access to the Spanish archives, for which purpose he will soon depart for Spain. As the Madrid consulate is vacant, we [Blatchford, Draper, and himself], without Mr. Irving's knowledge, came here to ask that appointment for him.' Mr. Webster, after a lengthened pause, inquired, 'Do I understand you, Mr. Grinnell, as asking the appointment of Washington Irving as consul to Madrid?' Mr. Grinnell replied affirmatively, again reciting the circumstances which made the appointment desirable. Mr. Webster, sitting erect, and after a still longer pause, in a loud voice and emphatic manner, said, 'Why not *minister* to Spain, Sir?' This was an unexpected but not the less gratifying surprise. The sitting was protracted for an hour or two, but nothing more was said on that subject. Mr. Irving's appointment as minister to Spain was announced the next day."

DOMESTIC INTELLIGENCE.

Congress: In the Senate, on the 11th inst., Senator Blaine's resolution asking for the correspondence relating to the appointment of the Fisheries Commissioners by whom the recent award was made was adopted. A bill providing for the appointment of a commission to consider and report on the liquor traffic was passed in the Senate by a vote of 29 to 19. The President nominated Professor John W. Hoyt, of Wisconsin, to be Governor of Wyoming Territory. The President approved the act amending the laws granting pensions to the soldiers and sailors of the war of 1812 and their widows. In the House, Mr. Ewing, of Ohio, offered a joint resolution proposing to amend the Constitution so as to authorize the issuing of an indefinite amount of Treasury notes, to be used to retire United States notes not bearing interest, and to reduce the interest-bearing debt, and to be legal tender except where existing contracts call for coin. The Naval Appropriations Bill was reported; it amounts to $14,048,684.—On the 12th, the Senate passed the bill authorizing a review of Surgeon-General Hammond's case. William A. Howard, of Michigan, was confirmed as Governor of Dakota Territory.—On the 13th, the Senate passed the West Point Appropriation Bill, with amendments. The Consular and Diplomatic Appropriations Bill was also passed. An amendment to restore the pay of the first-class missions to the original amount was rejected.—On the 14th, the House passed the bill extending the time for paying the tax on whiskey in bond to three years.

The New Hampshire State election, held on the 12th inst., resulted in the re-election of Governor Prescott by about 1500 majority. A Republican Legislature and Council were also elected.

FOREIGN NEWS.

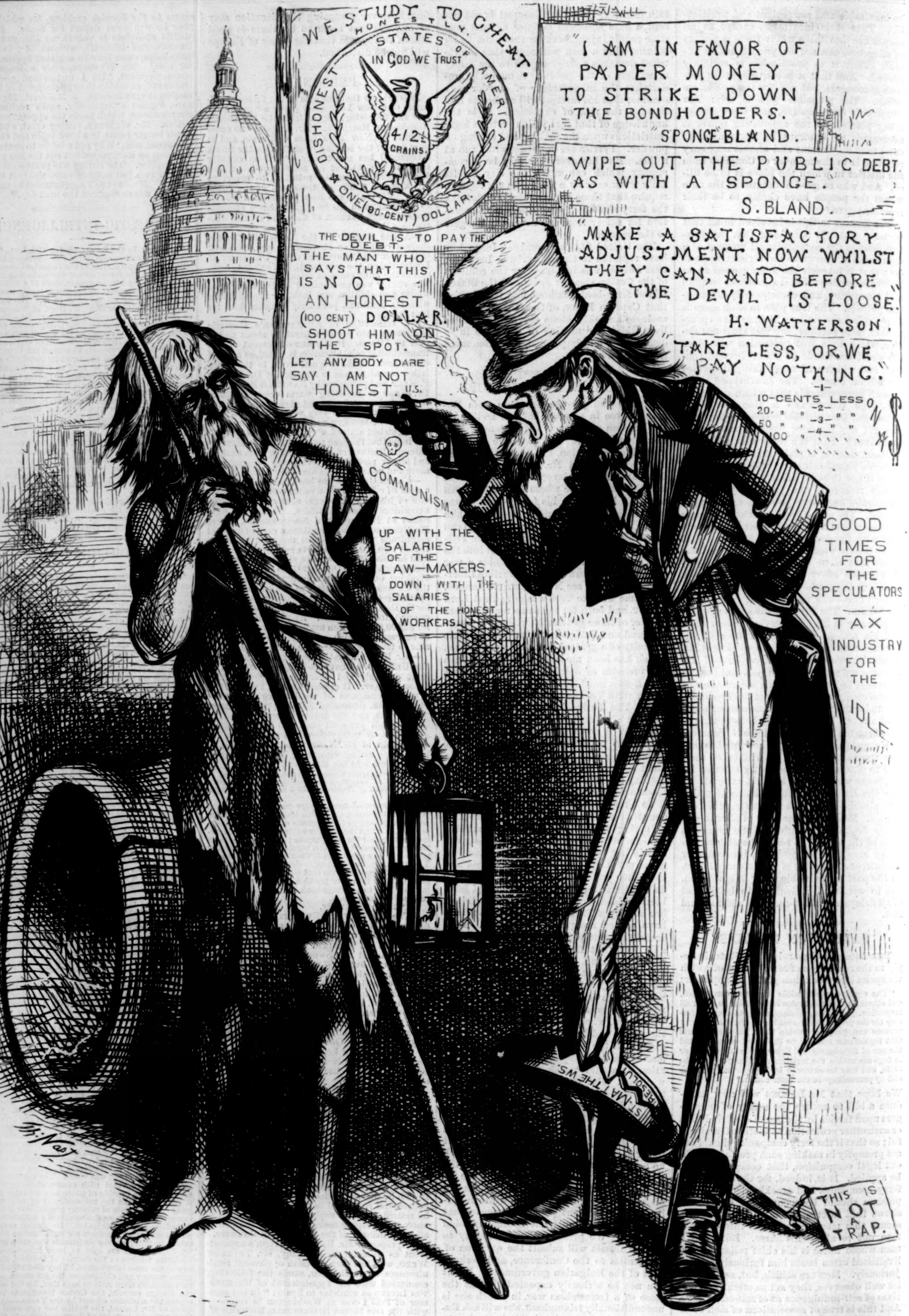
The Eastern Question: Nothing of a startling character has occurred during the week. The date of the International Congress meeting is said to have been fixed for March 31.—Reouf Pasha and General Ignatieff reached Odessa on the 11th inst., on their way to St. Petersburg. A Reuter's dispatch, of the 12th inst., from Constantinople, reports that "the Russians have occupied Fekerekeni, half an hour's march from Buyukdere, on the Bosporus. They also occupy a majority of the villages around Constantinople, and continue advancing toward the city." It was officially stated in the British House of Commons on the same day, however, that no news of such a movement had reached the British government.—The British squadron in the Mediterranean is now at Besika Bay, and will advance to the Dardanelles, so as to be nearer Admiral Commerell, who commands off Gallipoli. Admiral Commerell's squadron thus becomes more powerful than Admiral Hornby's, and will form a strong reserve.—Lord Derby said in the House of Lords, on the 8th inst., that Persia has assured the government that she has no understanding with Russia regarding the cession of a district on the Caspian Sea in exchange for the district of Bayazid. Lord Derby also said that the government is now communicating with the other powers, principally Austria, regarding the bases on which the Conference should proceed. The government had stated its opinion that not merely part but the whole of the treaty between Russia and Turkey should be submitted to a Congress. Sir Stafford Northcote said, in the House of Commons, that the government had informed Austria that it did not object to Berlin for the place of meeting of the Conference. He also said Lord Lyons will doubtless be the British plenipotentiary. On the 14th, he declared that every article of the treaty must be submitted to the Congress.—Count Andrassy, in a statement accompanying the bill for the credit submitted to the Delegations, defining the position of Austria, said: "We must demand such a limitation of the results of the war whereby neither our nor European interests will be injured. We must provide the best possible solution, but not a mere postponement of the questions arising out of the relations of the powers. If Russian arrangements relative to one-half of Turkey come into force, what will be the prospect of the other half? To what extent can Turkey be reduced and still retain a chance of Continental existence? How guarantee the execution of reforms? Such gigantic difficulties only Europe, acting in concert, can surmount. A single state seeking to settle them at its own good pleasure must be in a position to reckon with a European coalition, which, however, Count Andrassy was careful to add, did not exist. It was not to Russia's interest to make sacrifices for things which do not contain within themselves guarantees of stability, and to which Europe was bound to refuse recognition. Consequently there was a justifiable hope that the Congress would lead to an agreement. Austria enters the Congress to defend Austrian and European interests. Austria has reserved her whole strength for the moment of the conclusion of peace. She asks a money grant to safeguard her interests against any surprise, not relying upon mere political arguments when one power comes fully armed upon the scene. Our request is not an act of hostility against any power, nor mere idle demonstration, but an act of precaution." Subsequently Count Andrassy further stated that a declaration of Austro-Hungarian interests was handed to Russia before the war, and Russia acknowledged that it was well founded. He emphatically denied that the government contemplated ordering mobilization as soon as the credit was voted. The government desired to be provided with means, showing that the monarchy was capable of protecting its interests, but it could not take the responsibility of appearing at great cost in a state of military preparation before the Congress from whose deliberations a satisfactory understanding was anticipated. He denied various reports that actual measures for mobilization had been taken, or that an *ordre de bataille* was already drawn up.—The Turks are said to have devastated eight Christian villages in the district of Delvino, and massacred the male inhabitants. They also killed 100 fugitive women and children on the sea-shore. A Reuter's dispatch from Athens says that, by the advice of the foreign consuls, the Cretan insurgents have accepted the armistice offered by the Turks.—At the request of Mr. Layard, the Sultan has approved a charter for the Protestants of Turkey similar to that possessed by the Greek Armenian Church.

The Austrian Lloyd's steamer *Sphinx*, from Cavallo, with 2500 Circassians on board, caught fire and went ashore near Cape Elia. Five hundred lives were lost.

Forty-four miners were killed by an explosion in the Unity Brook pit, near Bolton, England, on the 12th inst.

The bill to abolish capital punishment in Great Britain was defeated in the House of Commons on the 13th inst., on its second reading, by a vote of 263 to 64.

Thirty-six persons who were attending a fair at Brest, France, on the 14th, were drowned by the capsizing of a barge.


WE STUDY TO CHEAT.
HONESTLY.
STATES OF AMERICA.
IN GOD WE TRUST
DISHONEST
4/12½ GRAINS.
ONE (80-CENT) DOLLAR.
"I AM IN FAVOR OF PAPER MONEY TO STRIKE DOWN THE BONDHOLDERS." SPONGE BLAND.
WIPE OUT THE PUBLIC DEBT AS WITH A SPONGE. S. BLAND.
"MAKE A SATISFACTORY ADJUSTMENT NOW WHILST THEY CAN, AND BEFORE THE DEVIL IS LOOSE." H. WATTERSON.
"TAKE LESS, OR WE PAY NOTHING."
-1- 10-CENTS LESS
20 " " -2- " "
50 " " -3- " "
100 " -4-
ON $
THE DEVIL IS TO PAY THE DEBT.
THE MAN WHO SAYS THAT THIS IS NOT AN HONEST (100 CENT) DOLLAR. SHOOT HIM ON THE SPOT.
LET ANY BODY DARE SAY I AM NOT HONEST. U.S.
COMMUNISM.
UP WITH THE SALARIES OF THE LAW-MAKERS.
DOWN WITH THE SALARIES OF THE HONEST WORKERS.
GOOD TIMES FOR THE SPECULATORS
TAX INDUSTRY FOR THE IDLE.
ST. MATTHEWS.
RESOLU
THIS IS NOT A TRAP.
Th. Nast.

OUR UNCLE'S "HONOR" TOUCHED.

High-toned, High-strung U. S. (*to* Diogenes). "Any insinuation? You Gold-bug! You Shylock! You Bloated Bondholder! You Capitalist! You are purchased by Wall Street Sharks."

ST. PATRICK'S MARTYRS.

I wonder what the mischief was in her, for the mistress was niver contrairy,
But this same is just what she said to me, just as sure as me name it is Mary:
"Mary," says she, all a-smiling and swate like, "the young ladies are coming from France,
And we'll give them a welcome next Monday, with an illegant supper and dance."

"Is it Monday ye're maning?" says I; "ma'am, why, thin I'm sorry to stand in yer way,
But it's little of work I'll do Monday, seeing that Monday's St. Patrick's Day;
And sure it's meself that promised to go wid Cousin Kitty Malone's brother Dan,
And bad luck to Mary Magee," says I, "if she disappoints such a swate young man!"

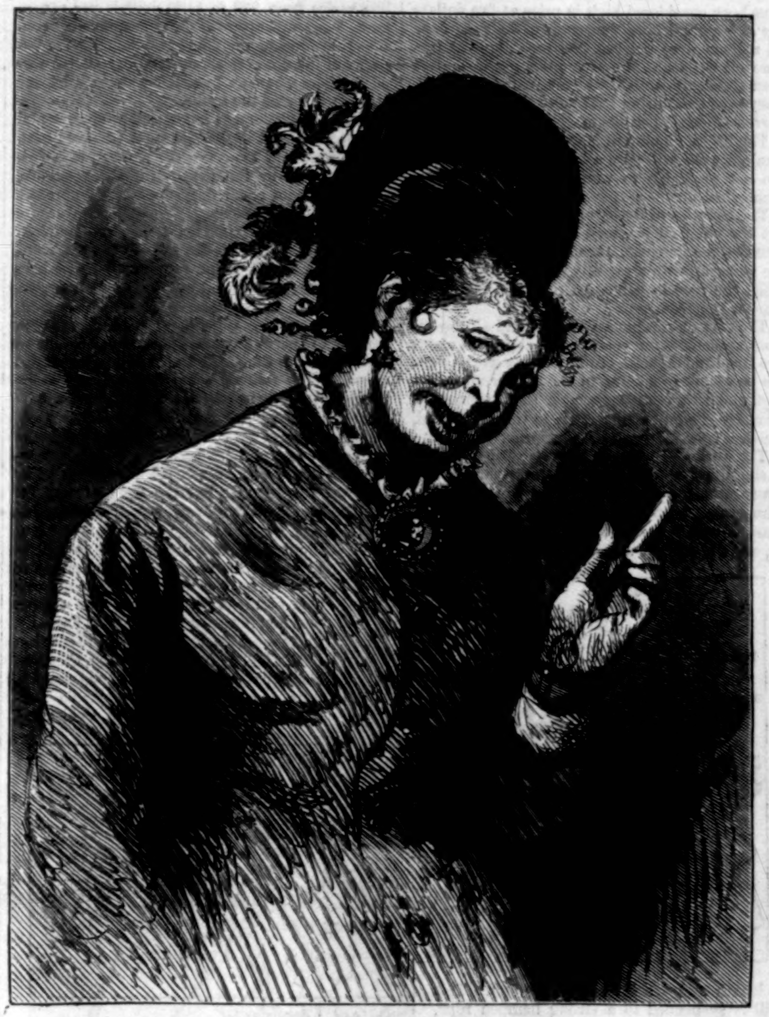
"Me children hev been away four years"—and she spoke in a very unfeelin' way—
"Ye can not expect I shall disappoint them either for you or St. Patrick's Day:
I know nothing about St. Patrick." "That's true for ye, ma'am, more's the pity," says I,
"For it's niver the likes of ye has the luck to be born under the Irish sky."

Ye see, I was gitting past jokin'—and she sitting there, so asy and proud,
And me thinking of the Third Avenue, and the procession and music and crowd;
And it crassed me mind that minit consarning Thady Mulligan's supper and dance;
Says I, "It's not Mary Magee, ma'am, that can stay for the ladies coming from France."

"Mary," says she, "two afternoons each week—ivery Wednesday and ivery Monday—
Ye've always had, besides yer early Mass, and yer Vispers ivery other Sunday,
And yer friends hev visited at me house, two or three of them ivery night."
"Indade, thin," says I, "that was nothin' at all but ivery dacent girl's *right!*"

"Very well, thin," says she, "ye can lave the house, and be sure to take wid ye yer 'right;'
And if Michael and Norah think just as ye do, ye can all of ye lave to-night."
So just for St. Patrick's glory we wint; and, as sure as Mary Magee is me name,
It's a house full of nagurs she's got now, which the same is a sin and a shame.

"Bad luck to them all! A poor body, I think, had need of a comfterble glass;
It's a miserable time in Ameriky for a dacent Irish-born lass.
If she sarves the saints, and is kind to her friends, then she loses her home and her pay,
And there's thousands of innocent martyrs like me on ivery St. Patrick's Day.



ONE OF ST. PATRICK'S MARTYRS.—[Drawn by Sol Eytinge, Jun.]

A SUGAR CAMP.

The manufacture of maple sugar is an important industry in many of our Northern States. The sugar or rock maple is most abundant north of latitude 40° and east of the Mississippi; in the Southern States it is met with only in the mountain ranges. It is a beautiful tree, sometimes growing to the height of eighty feet, with wide-spreading branches and thick foliage. No tree shows a more brilliant autumnal coloring.

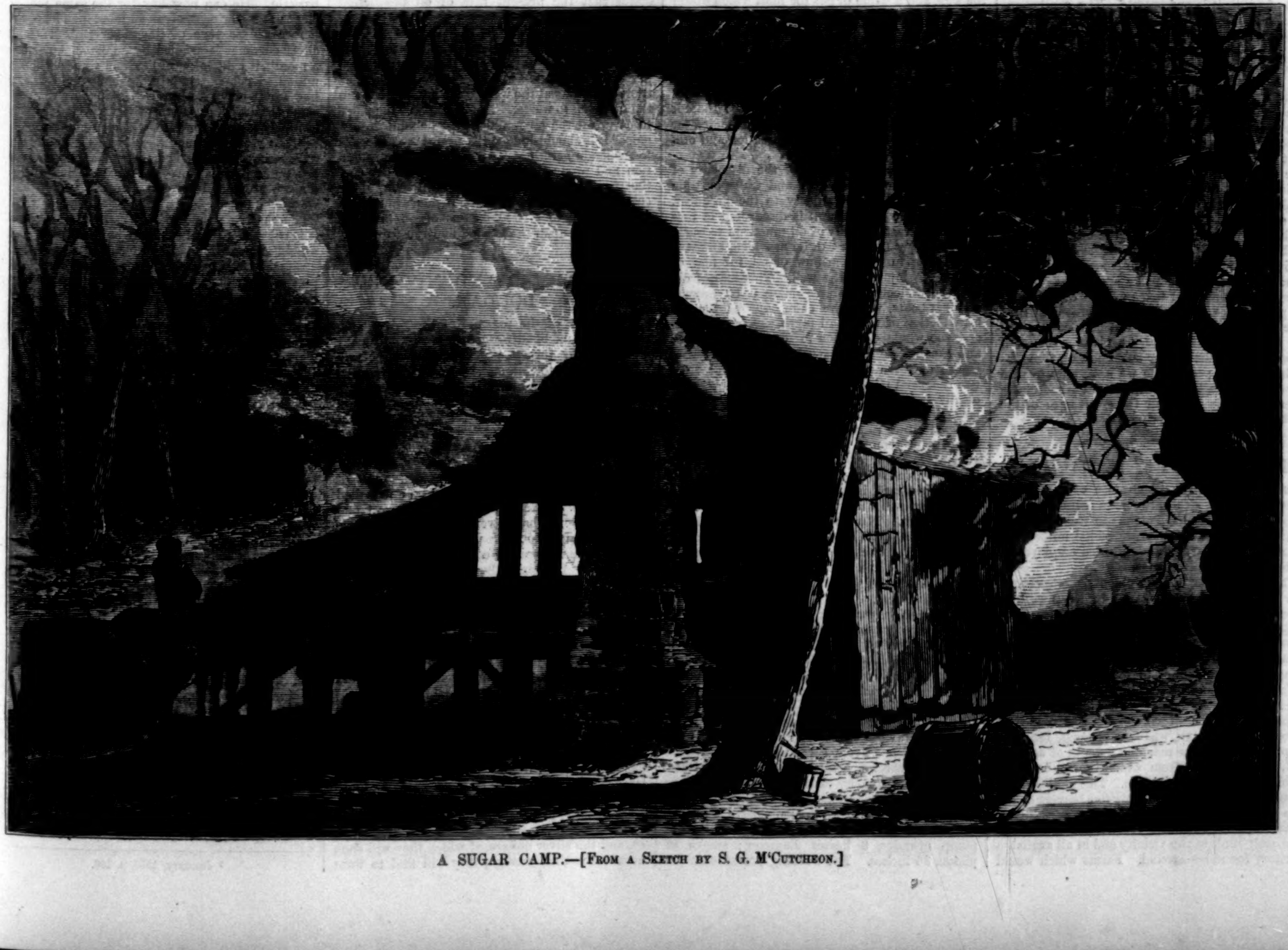
The sap of this tree contains a very large amount of sugar—a fact well known to the Indians before the settlement of this country by the whites. On many farms, in the regions where the sugar-maple is abundant, the "sugar-bush," as a grove of these trees is called, is an important part of the property. The trees are tapped in February or March, when the sap begins to ascend, by boring into the trunk near the ground. A wooden tube inserted in the boring conducts the sap into a bucket. The flow is most abundant when the days are warm with frosty nights between.

In most regions the process of making the sugar is still as crude as that practiced by the aborigines. It consists of collecting the sap and boiling it down in a large caldron over an open fire of logs built in the grove; but this method often affords most picturesque scenes at night, and the sugar camp under the trees is a favorite resort for picnic parties. When sufficiently concentrated, the sirup is poured into moulds and left to granulate. The growing importance of this industry has of late years led to more care in the process of manufacture; instead of the open camp and the log fire, the thrifty farmer has a sugar-house, with evaporators and other apparatus to facilitate the operation. In 1870 the total production of maple sugar in the United States was 28,443,645 pounds. Of this amount Vermont contributed 8,894,302, and New York 6,692,040 pounds. The total quantity of maple sirup manufactured the same year was 921,057 gallons. The demand for this delicious sirup has become so extensive that many farmers send all the product of their sugar-bush to market in this form.

THE PHONOGRAPH.

If it were not that the days of belief in witchcraft are long since past, witch-hunters such as those who figured so conspicuously in the early history of our country would now find a rich harvest of victims in the *Tribune* Building. Here are located the head-quarters of two marvels of a marvellous age. The telephone, which created such a sensation a short time ago by demonstrating the possibility of transmitting vocal sounds by telegraph, is now eclipsed by a new wonder called the phonograph. This little instrument records the utterance of the human voice, and like a faithless confidante repeats every secret confided to it whenever requested to do so. It will talk, sing, whistle, cough, sneeze, or perform any other acoustic feat. With charming impartiality it will express itself in the divine strains of a lyric goddess, or use the startling vernacular of a street Arab.

A few days ago a reporter for *Harper's* visited the phonograph for the purpose of ascertaining, so far as an unscientific person might, the peculiar characteristics of the marvellous little instrument. Prepared for an elaborate system of weights, pulleys, levers, wheels, bands, such as abounded in the case of Barnum's talking machine, whose utterances, by-the-way, were confined to some half dozen inarticulate sounds that no man living could understand, it was rather startling to find in the famous phonograph a simple apparatus, which, but for the absence of more than one cylinder, might have been a modern fluting machine. This single cylinder of hollow brass is mounted upon a shaft, at one end of which is a crank for turning it, and at the other a balance-wheel, the whole being supported by two iron uprights. In front of the cylinder is a movable bar or arm, which supports a mouth-piece of gutta-percha, on the under side of which is a disk of thin metal, such as is used for taking tin-types. Against the centre of the lower side of this disk a fine steel point is held by a spring attached to the rim of the mouth-piece, as shown in our illustration on page 256. An India-rubber cushion between the point and the disk controls the vibration of the spring. The cylinder is covered with a fine spiral groove running continuously from end to end. In using the phonograph the first operation is to wrap a sheet of tin-foil closely around the cylinder. The mouth-piece is then adjusted against the left-hand end of the cylinder so closely that the vibration of the voice on the disk will cause the point to press the tin-foil into the groove, making minute indentations resembling, on a very small scale, the characters of the Morse telegraph. The cylinder is moved from right to left by the screw crank, so nicely adjusted that the steel point is always against the centre of the spiral groove. While turning the crank the operator talks into the mouth-piece in a voice slightly elevated above the ordinary tone of conversation. Every vibration of his voice is faith-



A SUGAR CAMP.—[From a Sketch by S. G. M'Cutcheon.]

fully recorded on the tin-foil by the steel point, the cylinder making about one revolution to a word.

In order to reproduce the words—that is, to make the machine talk—the cylinder is turned back, so that the steel point may go over the indentations made by speaking into the mouth-piece. A funnel, like a speaking-trumpet, is attached to the mouth-piece, to keep the sounds from scattering. Now turning the crank again, every word spoken into the mouth-piece is exactly reproduced, with the utmost distinctness.

Thus the disk is either a tympanum or diaphragm, as the case may be, the first when it listens, and the second when it talks. Herein the phonograph seems actually to have got ahead of that other marvellous construction, the human body. In our anatomical economy the contrivances by which we are enabled to hear and talk are not only separate and distinct, but are also much more complicated than the method by which the phonograph accomplishes the same results.

While comparing this remarkable machine to the race whose characteristic attribute it has stolen (it is, we believe, habitually asserted by people who have no means of knowing any thing whatever about the matter that man is the only animal that talks), it may not be unfitting to allude to the admirable example it sets many garrulous and wearisome individuals. The phonograph never speaks until it has first been spoken to. Herein it also offers a worthy admonition to many ambitious but inexperienced writers. It has no original ideas to advance, or else is possessed of that spirit of modesty which precludes the possibility of its annoying the public with unripe fancies and crude speculations. The phonograph only consents to astonish the world at the instance of some dominant and controlling mind. When it is about to exhibit itself, an operator must be on hand to put it through its paces. On the occasion in question this gentleman was Mr. William H. Applebaugh, General Superintendent of the Telephone Company of New York.

Seating himself before the instrument, Mr. Applebaugh confided to the disk names, numbers, scraps of poetry, comic songs, and various other bits of information calculated to amuse the phonograph, but not improve its mind. These were faithfully recorded upon the foil, which was made to revolve by turning the crank. Then the disk was sent back to the original starting-point, the crank again set in motion, and the metallic point brought into contact with the foil. Presently the phonograph began, in clear, distinct tones, to count, to call names, to describe its own peculiar talents, to give its own address, and finally to sing:

> "There was an old man whose name was Uncle Ned,
> And he died long ago, long ago;
> And there wasn't any wool on the top of his head,
> On the place where the wool ought to grow."

This dropping into poetry apparently gave a sentimental turn to the thoughts of the phonograph, for presently, in spite of the fact that it was discoursing to a mixed and probably unsympathetic audience, it began to long for

> "the touch of a vanished hand,
> And the sound of a voice that is still."

As yet the phonograph is in its infancy. Its discovery was the result of an accident, and so far but little idea can be formed of the development of which it is susceptible. The gentleman who has the honor of being its inventor is Professor Thomas A. Edison, the famous electrician, who, in experimenting with the telephone, happened to notice the manner in which the disks of that instrument vibrated in accordance with the breath used in speaking. Believing these vibrations could be recorded so as to be reproduced, he set to work to manufacture a machine for the purpose, and the result is the phonograph. In a short time we shall, no doubt, have the curious little contrivance worked up to its highest perfection. And then, possibly, there will follow a revolution in all departments of public singing and speaking. There is no reason why we should not have all the great men of the age, as well as all the brilliant singers and actresses, taken possession of and driven off the course by the phonograph. Let them sing or speak once in any place, their words and tones will be captured by the phonograph. The tin-foil, whereon all they have said is duly recorded, will be electrotyped, and copies sold at so much a piece. We shall all waste a portion of our substance on these little instruments; and then we have only to turn a crank, or set a kind of clock-work in motion, in order at any time to hear the great ones of the earth discourse in our own parlors.

THE OIL REGIONS OF PENNSYLVANIA.

In our double-page illustration of the oil regions we present clearly the main features of one of the wonderful developments of national wealth, which has within a few years added millions of dollars to our treasury, and afforded employment to thousands of our citizens.

The early history of petroleum is interesting. The Indians and first settlers in Northwestern Pennsylvania used it for medicinal purposes, gathering it from the surface of springs and streams. It was also used by the Indians in their weird exercises and devotions, the surface of the streams being "fired and made to blaze with great flame."

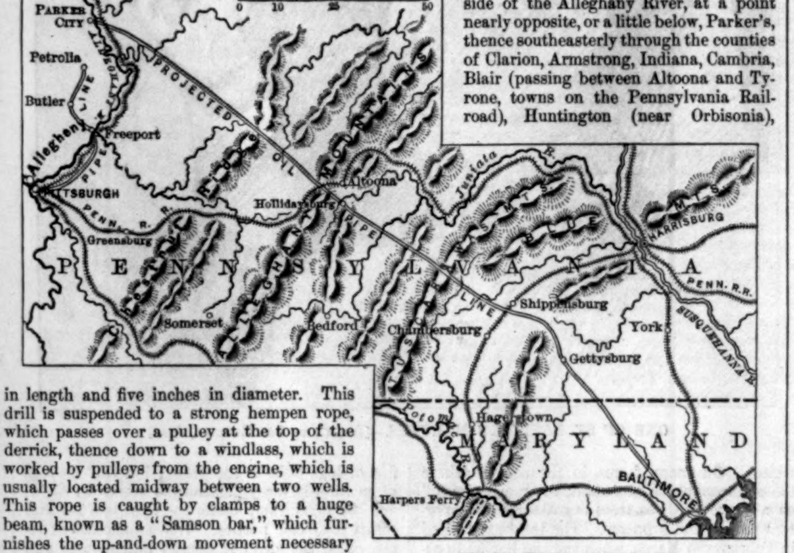
The discovery of petroleum in a quantity sufficient to induce the belief that it would eventually become an article of commerce was made by Colonel E. L. Drake, when, in August, 1859, he dropped a drill, after reaching a depth of seventy feet, into a crevice from which the oil came to within five feet of the surface. This shallow well gave a pumping yield of twenty-five barrels a day. The excitement caused by this discovery was only equalled by the California fever. Wells were immediately sunk in the vicinity and in all available territory for miles around. Farms which would have been considered high in price at five dollars per acre were held at thousands of dollars. New oil regions were quickly discovered, and at this time oil wells are in active operation in no less than six counties of Northwestern Pennsylvania. They produced during 1877 more than 12,000,000 barrels of crude petroleum.

The life of an oil well is from two to five years. The old wells still give a few barrels a day, but are not profitable to work except in the most economical manner.

The counties of Butler and Clarion are at present the chief oil territory, and in both of these counties the derricks, numerous enough already, are going up with a rapidity which is astonishing when the present depressed condition of the oil market is considered.

The cost of sinking an oil well and all the various appliances for working it is at present about five thousand dollars. In Butler County the wells are now sunk to a depth of about fifteen hundred feet, going through the second sand, which was formerly the oil-bearing sand, to the third sand, which is now the productive stratum.

The work of drilling an oil well has been greatly simplified of late years, and the work, aided by many new appliances and inventions, proceeds with surprising rapidity. The drill used is a heavy mass of iron thirty feet in length, jointed together, and tipped with a steel chisel some three feet in length and five inches in diameter. This drill is suspended to a strong hempen rope, which passes over a pulley at the top of the derrick, thence down to a windlass, which is worked by pulleys from the engine, which is usually located midway between two wells. This rope is caught by clamps to a huge beam, known as a "Samson bar," which furnishes the up-and-down movement necessary to the work. When a quantity of rock and sand is loosened the drill is withdrawn and a sand pump is let down, the débris is drawn up, a sharpened drill point replaces the dull one, and the work proceeds.



THE PROJECTED OIL-PIPE LINE.

If the well proves to be an oil well, and not the despised dry hole, with which expensive cavities the oil region is so plentifully pierced, the gas generated from the well itself will, as a general thing, afford fuel for all needed purposes about the well, and a flame of gas for light which would suffice to illuminate a large hall. The well-man's cook stove is a curious contrivance. The space usually occupied by coal is half filled with broken bricks, into which a small gas pipe is introduced. It is slight trouble to light the fire, and there are no ashes to be removed. Many wells in Butler County are barren of oil, but in place thereof they yield a supply of gas, which is conducted for miles in pipes, and used for illumination and other household purposes.

From the earliest period of the discovery of oil the question of storage and transportation has been a source of anxiety to the producer. When a large flowing well is discovered in new territory, a vast quantity of oil must run to waste before proper tankage can be provided, and it is inadvisable to stop the flow of oil, for fear of permanent injury to the well. This loss of oil, and the difficulty of transporting it by wagons and flat-boats, were the chief reasons for the introduction of the small pipes which now traverse the whole oil region in Western New York and Northwestern Pennsylvania. The aggregate length of these well-pipe lines is not far from two thousand miles. These are, of course, principally feeders, which conduct the crude oil to large iron tanks, from which the oil is again pumped either to great storage tanks located at some point remote from any buildings and convenient to a railroad, or to the tanks of the refinery which is to treat the crude petroleum. The largest tank in the world is located at Brilliant, a few miles above Pittsburgh, on the Alleghany River. The total tankage at this point is about 89,000 barrels. The capacity of the great tank is said to be 45,000 barrels. The tank is constructed of iron plates a quarter of an inch in thickness; its height is twenty-eight feet; its diameter, 104 feet.

The principal pumping station on the main line is at the new town of Carbon Centre, where the great boilers, run entirely by gas, drive a Cammeron and a Knowles pump on alternate days, forcing the oil through a four-inch pipe to tanks located at Freeport, a distance of fourteen and a half miles. The oil pipe is not buried, but laid on the surface, and follows almost a direct line, traversing ravines and crossing hills of considerable elevation. From Freeport the oil is again pumped to the refineries in the vicinity of Pittsburgh. The capacity of the pumps is given as follows. The dimensions of the "Special" steam-pump made for use at Carbon Centre, Pennsylvania, are: steam-cylinder, 30 inches diameter; pump cylinder, 8 inches diameter; stroke of piston, 36 inches. The working pressure on the line varies from 950 to 1100 pounds per square inch. The temperature of the atmosphere has considerable effect on the fluidity of the oil. The capacity of the pump is about 6500 barrels per day of 23½ hours, half an hour being taken each day at noon to gauge the tanks.

The late excitement among oil-producers and others interested in the shipment of petroleum, and the attempt to secure the passage of a free pipe line law by the Pennsylvania Legislature, brought various conflicting statements before the public. The oil-producers, desiring only to secure the cheap transportation which they are confident that the pipe line from the wells to the sea-board would afford, ignored the fact that the pipe line, through which crude oil only could be shipped, would convey the raw material directly away from the great refineries which have been erected convenient to the wells, and promote the shipment of crude oil to the foreign markets, to be refined abroad. The railroad companies objected to being deprived of one of their principal articles of freight, and the depreciation in value of their thousands of tank cars. The barrel-makers and hoop-manufacturers also interposed a strong remonstrance against the sea-board pipe line. The bill was not passed; but the right of way for a pipe line from the oil regions to Baltimore has been purchased, and the line will, it is said, be built. The route of this line is given as follows by one of the promoters of the proposed work: The line will start from the east side of the Alleghany River, at a point nearly opposite, or a little below, Parker's, thence southeasterly through the counties of Clarion, Armstrong, Indiana, Cambria, Blair (passing between Altoona and Tyrone, towns on the Pennsylvania Railroad), Huntington (near Orbisonia), Franklin, Cumberland (near Shippensburg), Adams (near Gettysburg), within the State of Pennsylvania. In Maryland it will run through Carroll and Baltimore counties to Centre Creek, on Patapsco Bay, south of Baltimore, in Anne Arundel County, where it reaches tide-water.

Aside from the questions arising from the project of a pipe line to the sea-board, there is no doubt that the present rate of oil production greatly exceeds the consumption. An article recently appeared in the New York *Journal of Commerce* which showed that in 1877 this excess was 6000 barrels per day. Last December 690,000 barrels were stored away in tanks. In some districts the tanks at the wells are running over and the oil going to waste. The inability of the pipes to carry off the oil would be a "blessing in disguise" if it should induce the proprietors of wells to suspend operations for a while, until consumption and production become equalized. A continuance of the present activity must soon fill the entire available tankage of the region, after which from 20,000 to 30,000 barrels of oil must be daily poured upon the ground and run to waste.

THE FARMER AND THE NEW DOLLAR.

The effect of the passage of the Silver Bill, even in its modified form, may easily be understood by any farmer, producer, or planter who has any thing to sell, and by every laborer who has any wages due him. Before its passage the farmer was able to demand for his corn and wheat their full price in notes that were nearly equal to gold, and it seemed certain that in a very short time the paper money of the country would rise to an equality with gold. Resumption had almost come by the natural operations of trade as the result of our immense and unequalled crops. The failure of the English harvest and the Eastern war had given rise to an unprecedented demand for our provisions, wheat, and corn, and enabled us to command the capital of the world. But since the passage of the Silver Bill the condition of the farmer is altogether changed. The law directs that he shall take silver for his crops; he is forced to accept in payment for his wheat the new dollar, which is worth nearly one-tenth less than the paper dollar; he has no means of escape, but must sell his produce for the depreciated currency, and the income on which he relied to pay off his debts and support his family is reduced in value by just so much as the new dollar is worth less than gold. The passage of this odious measure has lowered the value of the crop of the country by nearly one-tenth, and has taken away, it may be safely asserted, the larger part of the profits of the farming and producing classes. All sections suffer alike: the cotton-planter and the wheat-grower are compelled to sell their productions for a depreciated money, and the silver dollars, of which they will soon have more than enough, they will find to want wholly the character of a national and universal currency. They are no better than tokens that must be sold at a discount, and have no purchasing value in the markets of the world.

Foreigners, who are the customers for our corn, cotton, provisions, will now have us at their mercy. They will purchase our depreciated silver with their good gold, and will pay for every bale of cotton and every bushel of wheat just about one-tenth less than its real value. To their intense astonishment they will find that our unlucky farming and producing classes are compelled by law to accept the base coin in place of the better; that the planter of Georgia, the pig-drovers of Kentucky, the wheat-growers of Kansas and Nebraska, the provision merchants of Cincinnati, the whole laboring and industrial population of the West and South, are forced to sell their wares for depreciated silver, and are transferred by act of Congress into a commercial bondage to the merchants of Liverpool and Frankfort. To these keen and intelligent traders our Silver Bill must seem a piece of luck the most extraordinary that could have befallen them. England and other parts of Europe are suffering from an unusually bad harvest. The war has closed the Black Sea ports, and probably destroyed or injured the wheat of Odessa. To the United States the foreign corn merchants have come, as they came of old to the Egypt of Joseph and Pharaoh, to buy corn. They were prepared to pay its full price in gold; the money was ready, and the wealth of Liverpool and London might have been transferred to the fertile West. When the strangers came up to Egypt to buy food, we have too much confidence in the sanity of Joseph and Pharaoh to suppose that they were willing to take any thing but the best and purest money; no Pharaoh would command his subjects to sell their crops for a depreciated coin when they might get the best, and not even Egyptian darkness ever gave rise to so strange a delusion as that which has possessed too many of our legislators. The hungry Syrians and Arabs, we may be sure, brought their best money to the treasury of Memphis; and had they offered to the traders of the Nile any adulterated pieces which they would never take themselves in their own country, they would have been sent away with little ceremony, as famished as they came. But the foreign trader who comes to New York or Chicago to purchase wheat has reason to rejoice in the more than Arcadian simplicity of its people. Here the law interferes to enable the merchant to beat down the farmer and force him to take inferior money instead of good. The new dollar he can not refuse. Fortunately there are still not many of them, and the mischief is not complete. But the foreign trader is now authorized to pay for the wheat he must have in a kind of money he would not take himself; our government aids him in plundering our whole industrial class. The European smiles at our simplicity, pays us in our own coin, which we seem to value so much more highly than any one else, exchanges his gold for depreciated silver, and returns to his own land, by the aid of the Silver Bill, with a much larger load of wheat or provisions than he had ever hoped to be able to obtain.

In Europe the new dollar is worth about ninety-one cents, with silver at fifty-four pence the ounce; the English trader has only to exchange his gold for American currency to make a most profitable bargain. He can now buy for the same money eight or ten per cent. of wheat more than he could before the passage of the Silver Bill. As our silver currency is swelled by $3,000,000 or more a month, it will sink still lower in value; with an unlimited coinage, it is quite impossible to say how far it may lose its credit. But we may assume that a depreciation of ten per cent., which is nearly its present rate, will continue throughout the year, and may be taken as its probable purchasing power. This depreciation in silver has taken place all over the world. Even in India, we are told by a writer in the *Westminster Review*,[1] immense losses have been occasioned by its fluctuations; the *rupee* has no fixed value; and it is suggested that India may be forced to adopt a gold standard, however difficult and costly the change. Even in India silver has become a depreciated currency, and the losses by persons who have invested their savings in rupees or silver bills are already great. But with us the attempt to use silver as a currency assumes the nature of a forced loan for the benefit of foreigners, and gives away the profits of our industrial classes to European capitalists and usurers.

The loss to the nation by the Silver Bill in the future will be immense; it must be estimated rather than calculated. The whole crop of the country in cotton, wheat, corn, provisions, is diminished in price; of this we export $500,000,000, and lose $50,000,000 at the lowest. But the far larger portion of our provisions and food, amounting to a billion or more in value, is sold to our own people, at a price no higher than we can sell it for abroad. The foreign market controls the domestic; on our whole internal trade, therefore, we shall lose a sum approaching $100,000,000, if not far in excess of that amount, and when we consider that this loss in profits represents a decline in all other kinds of business—in the dry-goods trade, the butchers' and bakers', in rail-road travel, building, real estate, rents, freight inland or on the sea—we may imperfectly estimate the harm that may be produced by a debased and fluctuating currency. Every farmer and planter at the South and West will have leisure to regret that he was ever led into the support of a measure that could only do harm to himself; every intelligent working-man will at last discover that in advocating an unlimited issue of silver or paper money he has aided in impoverishing his own country to enrich the foreign merchant; that he has sought to drive away capital, to reduce his own wages, and diminish his own chances of a lasting employment. To make our country what it must again become—the most prosperous of all—we want, above all things, honest money, the best in the world; we want a government whose credit is above suspicion; we want to cultivate among all our people the simple truth that integrity is the only source of national progress and content.

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[1] January, 1878, p. 106.

This must be the especial duty of all our industrial classes; and it is a fortunate circumstance that the working-men of the country are beginning to concern themselves in the elections, and are studying their own interests, which are always those of the whole nation. Heretofore they have neglected too often their duty in this respect. But the recent town elections show that, sometimes upon principles erroneous and wild, sometimes upon a proper impulse, the working-men have nominated, and in several places elected, their own candidates. In some instances they have allied themselves with the inflationist, in others they have fallen into the hands of the ultramontane Democracy. But at heart every honest working-man must be a sincere Republican. He hates a slave-holding or priestly caste; he advocates education, progress, reform; he has a tendency toward republican simplicity and refinement; he contemns political intrigues and insincerity; and as the vast majority of the people belong to this industrial class, it is quite certain that they will not much longer submit to the use of a debased currency, or suffer the trade and wealth of the country to be thrown into the hands of foreigners.

Do the farmers of Wisconsin, of Kentucky, or of Georgia wish to sell their crops for an inferior money? Are they willing that the foreign trader shall pay them in a coin which he refuses to take himself? This is a plain question the people will have to answer in their future elections. They will find that honesty and self-interest demand a dollar of full weight, a coinage of perfect purity.

But what shall be said of those legislators who have stained the heretofore unsullied honor of their country; who propose to pay its debts in debased money, and violate the pledges made to the public creditor; who would plunder the industrial classes for the benefit of strangers; who have aimed a suicidal blow at the interests of every branch of trade except the money-changers'? Happily from their decision an appeal yet lies to the people. Let the united North and West at least throw off with scorn the dishonor, the infamy, with which this odious measure has covered the nation. With grief and shame let them retrace their steps, and prove that republicans are honest men. Eugene Lawrence.

HOME AND FOREIGN GOSSIP.

During this year, when the "hard times" have been felt in every quarter, many persons who have been accustomed to contribute liberally to some one or more of the charitable institutions of our city have felt compelled to diminish, or entirely withhold, their usual gifts. Perhaps we are all too much inclined to make our first and largest economies in our charities. Be that as it may, the fact that many are now absolutely unable to give their accustomed support to benevolent institutions should induce those who have the means to give liberally, and to seek out such charities as are quietly struggling to carry on their labors of love. Many such might be mentioned. Among them is the Ladies' Union Relief Association, which for twelve years past has been the means of ameliorating the condition of suffering soldiers and their families. The aim of this association has always been to help its beneficiaries to help themselves—relief being given, after personal investigation into the needs of applicants, by ladies whose services are gratuitous. Food, clothing, medicines, and money are thus distributed with very little expense, and wisely. But this year the resources of the society are very much restricted, and the managers need the sympathetic help of the public.

Another institution worthy of support is the Lord Industrial School and Free Reading-room, located in the First Ward, at 135 Greenwich Street. This was organized as a branch of the Children's Aid Society, and is situated in a populous part of the city, where a bright and cheery reading-room for working-men, for whom it is designed, is an attraction and a safeguard. Many now habitually spend their evenings in the reading-room who formerly, for lack of a better place, visited liquor saloons. The number of volumes in the library is small, and donations of books, magazines, newspapers, or of money for the purchase of them, would be most acceptable. In addition to the industrial school there is an evening school for adults, and last year a series of lectures and entertainments was given which afforded great enjoyment to those for whom it was arranged.

The Pennsylvania Railroad Bridge which spanned the Raritan River at New Brunswick, New Jersey, was destroyed by fire on March 9. The bridge was made of pine, and old, so that it burned like tinder, illuminating every thing for many miles around.

A little poem, ancient and quaint, which is printed in an exchange, indicates the true spirit in which Lent should be kept, and we wish it were not too long to quote entire in these columns for the benefit of every one. After various queries touching the mere outward observance of Lent, the poet thus continues:

"No: 'tis a fast to dole
 Thy sheaf of wheat,
 And meat,
Unto the hungry soule.

It is to fast from strife.
 From old debate,
 And hate;
To circumcise thy life;

To show a heart grief-rent;
 To starve thy sin,
 Not bin;
And that's to keep thy Lent."

"An ounce of prevention is worth a pound of cure," is the good old proverb, and as true as ever. No case of small-pox has been reported in this city since the middle of July, 1877. A thorough system of vaccination has had its good results. A week or two ago, however, a young lady came to New York by steamer from Havana. Some indications of disease led her to consult a physician, and it was feared she was suffering from small-pox. She was taken to the Riverside Hospital on Blackwell's Island. It turns out that she has varioloid in a mild form. But every precaution has been taken to prevent contagion, and the steamer and the hotel where she first went have been disinfected by order of the Health Board.

During a surgical operation at Lyons, France, a terrible accident recently occurred. Ether had been administered, and then cautery by red-hot iron was employed in the operation. The ether took fire, and the patient, a young lady, was seriously burned about the face, and is disfigured for life. The possibility of such accidents should lead to the utmost care and caution.

There is no end to the folly of mankind. One Monsieur Cartier has been entertaining some of the Bostonians by exhibiting his endurance in waltzing. His greatest feat was waltzing thirteen and a half consecutive hours. And two young ladies were found willing to follow his example as far as they could, each of them waltzing three hours and seven minutes.

Worthy of record is the presence of mind exhibited by the rector of an Episcopal church in Atlanta, Georgia, during a recent tornado. No thought of danger was entertained when the morning services of Sunday began. But a terrific storm of wind arose, and suddenly shook the whole building to its foundations. The minister, instinctively feeling the danger, cried out to the people to throw themselves under the seats. This advice the congregation at once followed, and not a moment too soon. With a few fearful creaks and jars of its roof and walls, the whole building crumbled into a shapeless ruin, burying the congregation under the débris. Fortunately the shelter afforded by the seats protected the great mass of the congregation, but eighteen were more or less seriously wounded by the falling timbers.

Long Branch has for several years past been a frequent sufferer from fires known to be of incendiary origin. Yet the guilty parties have not been searched out or brought to justice. But the malicious attempts to destroy the summer hotels and cottages at Long Branch have at length assumed such a dangerous aspect that private individuals as well as public authorities are thoroughly aroused. Some arrests of culprits have been made, and it is believed that these miserable incendiaries will speedily receive their just dues.

The recent gasoline explosion in Harrison, Ohio, causing the instant death of two persons, the dangerous injury of several others, and the destruction of the Town-hall, ought to call attention to the danger of explosions where gas is prepared in the cellar of a house in which it is used. People in general are not yet careful enough to make such arrangements safe. In this instance the gas machinery was out of order, and it is supposed those who went into the cellar to examine it carried a light, which caused an instantaneous explosion.

A boy, weight fifty pounds, was recently sent by express over the crooked railway routes of Pennsylvania. As it was necessary for him to make several changes, his friends concluded that this was the safest method for him to make the journey. So a tag, with the proper address, was fastened to his button-hole, a receipt given to his parents, and the live package was finally delivered safely at its destination.

During the past year from eight to ten hundred emigrants have sailed from this port to New South Wales.

If people generally would practice economy with the wise fore-looking detailed humorously in the Detroit *Free Press*, they would lay up money. Here is the story, on which the thoughtful may ponder: A man entered a drug store the other day and inquired the price of an ounce of arsenic. Being informed, he drew a paper from his pocket, consulted some figures, and said, "That's two cents more than they asked me in Chicago."

"Well, those are my lowest figures," replied the druggist.

The man took out a stub of a pencil, figured for three or four minutes, and sagely observed: "It's time to practice economy, and I might as well begin here. Two cents on an ounce is thirty-two cents on a pound. Thirty-two cents on a pound is thirty-two dollars on a hundred-weight, or six thousand four hundred dollars on a ton. Great heavens! but do you think I would recklessly throw away six thousand four hundred dollars!"

It is decided that Cleopatra's Needle is to stand on the Victoria Embankment, at the Adelphi Steps. It had been objected that although the foundations of the Embankment were laid in solid concrete, yet this rested on a stratum of Thames mud; so that to erect an obelisk weighing with its substructure about two hundred tons would be a hazardous experiment. The engineer of the Board of Works replied by referring to the iron pillars of the Charing Cross Bridge near by, which had long borne a weight on each square foot double that of the obelisk.

The son and heir of the Grand Duke Vladimir was recently baptized amid much rejoicing, and according to the rites of the Greek Church. He received the euphonious name of Boris Vladimirovitch. About the time the little fellow made his appearance, his father returned from the seat of war, bearing a fresh scar on his forehead, received in the battle of Metchka. The Grand Duke Vladimir is about thirty, and was married four years ago to a German princess.

It is very wonderful what a degree of intelligence trained animals will manifest, as will be admitted by every one who has witnessed the performances of the ten Broncho horses, the dogs, and the Rocky Mountain goats at the New York Aquarium. The horses are magnificent creatures, which were wild upon the plains three years ago. Yet now they perform various military evolutions with accuracy, and each has special accomplishments showing remarkable aptitude to training. What more curious sight could there be than to see a horse walk up to the middle of a balanced board, oscillate the plank, and then go to the end of the board, while his companion horse forces down the other extremity, mounts it, and the two horses gravely seesaw up and down after the fashion of children? A feat even more difficult is the rolling of a barrel up and down the length of a balanced plank, which is skillfully performed. It seems more natural for dogs to perform tricks than for horses; and the dog that shows so much skill in riding a horse around the ring, springing off and upon his back at certain times, evidently enjoys the fun. Whether the solemn goat does also is questionable. But the accomplishments of the Rocky Mountain goats are wonderful, when their nature is considered.

SCIENTIFIC INTELLIGENCE.

The death of Mr. Andrew Murray, in London, on the 10th of January, adds another to the gaps in the ranks of working naturalists. A voluminous author in several quite distinct branches of pure and applied zoology, his researches have been directed of late more especially to scientific entomology in its applications to the interests of agriculture and forestry, and the collection, illustrating this subject, made by him for the government institution at Bethnal Green, in London, has attracted great attention from its completeness and instructive features. His most recent publication in this connection is the volume on economical entomology, the first of a series, which, unfortunately, will probably never be completed.

A very important work in a somewhat different direction is that upon the geographical distribution of the mammalia, which, although published several years ago, is even now a standard in reference to the known species and their distribution in geological and modern times.

Mr. Murray's researches in systematical botany and in general forestry have been scarcely less important than his labors as a zoologist.

Colonel Prjewalski, in his recent explorations in Kashgar, found a race of people very low in the scale of civilization. These were met with on the shores of Lake Lob-Nor, living in miserable huts constructed of reeds and branches twisted together. Their clothing is made of the fibres of a kind of lake weed, and with their nets and canoes constituted the whole of their possessions.

The facts multiply in regard to the success of the operations prosecuted for some years past by the United States Fish Commission and those of various States for introducing salmon into the American rivers, the report of the Commissioners of Fisheries for New Jersey for the year 1877 giving the record of the capture of nine salmon in the Delaware River, weighing from eight to twenty pounds, and unverified statements in regard to many more. There is every reason to believe that in a short time salmon will be as abundant in the Delaware as they were during the past year in the Merrimac River.

Another of the noteworthy volumes of Professor Hayden's reports of the United States Geological Survey of the Territories, being the seventh of the series, has just made its appearance from the government press in the form of a quarto volume of 400 pages, with 65 plates. It consists of the Second Part of the contributions by Professor Lesquereux to the fossil flora of the Western Territories, and contains the species of the tertiary period, the First Part, published several years ago, relating to the cretaceous.

In regard to the much-vexed question of the geological age of the lignite group of the West, Professor Lesquereux is decidedly of the opinion that it is tertiary, thus confirming the conclusions of Professor Hayden.

Testimony is borne in this report to the extent and value of these lignite coal beds, which Professor Hayden considers not less important than the true coal measures of the East, from the Mississippi to Massachusetts.

Another noteworthy addition to the series of publications of the Geological and Geographical Survey of the Territories is the first number of Volume IV. of the Bulletin, which has also just made its appearance. This embraces fourteen different articles, among the most important being papers on the ornithology of the Lower Rio Grande, by Mr. Sennett, studies of the American herons, by Mr. Ridgway, and notices of certain butterflies, collected in Utah and Arizona, by Mr. Scudder.

The death is announced as having taken place at Nice, in February last, of the eminent Danish conchologist Dr. Mörch.

Some idea of the abundance of certain species of birds in particular limited districts in Europe may be gathered from the fact that between 350,000 and 400,000 blackbirds, a species of thrush about the size of the English robin, are annually exported from Corsica to Paris.

Apropos of the contemplated action of Congress in regard to a building for the National Library, we may state that the city of Stockholm, in Sweden, has just completed a new Royal Library, erected at a cost of 900,000 Swedish crowns. The library at present contains 200,000 volumes—scarcely more than half the number in the National Library of the United States.

Our readers may remember that not long since considerable interest was excited by the statement that the bones of Columbus had been found in the Cathedral of San Domingo, instead of being buried in Madrid. Spanish writers have ridiculed this assertion; but, according to Professor William M. Gabb, there can be no mistake whatever that the remains of the distinguished navigator, instead of having been transferred, as was imagined, to Spain, are still in the Cathedral at San Domingo. The proof of the cheat practiced originally, and of the genuineness of these remains, is stated by Professor Gabb to be beyond any question.

The Lalande prize of astronomy has been awarded by the French Academy of Sciences to Professor Asaph Hall for his discovery of the satellites of Mars.

Professor C. Hermanauz, of Vienna, died recently in Japan, while on a tour around the world in connection with agricultural research.

Physical science has experienced a very severe loss in the death of two veterans, both Frenchmen and members of the Institute of France. The first of these, Professor A. C. Becquerel, died on the 19th of January, at the age of almost ninety.

The science of electricity constituted his specialty, a large number of communications to the Academy on this subject having been made by him, and several special treatises published. As early as 1837 the Copley medal of the Royal Society of London was awarded to him for his discoveries.

Somewhat contrary to the general rule, a son, Mr. Edmund Becquerel, is also a distinguished specialist in science, the two having prepared a number of works conjointly upon meteorology, agricultural chemistry, the influence of forests on climate, etc.

The second name referred to is that of Mr. H. B. Regnault, born in July, 1810. He, like Becquerel and many other eminent Frenchmen, was a student of the Polytechnic School, and shortly after his graduation he became Engineer-in-Chief of Mines. In 1840 he was appointed Professor of Physics in the College of France, and of Chemistry in the Polytechnic School. In 1854 he became director in the manufacture of porcelain at Sèvres. Among his many publications which have long constituted standard works are treatises on the use of steam as a motive power, on the elementary principles of chemistry, and treatises on physics. It may be remarked that the celebrated painter Regnault, who was killed at the siege of Paris, was one of his sons.

Mr. N. A. Dalzell, late Conservator of Forests in Bombay, died in January last. During the period of his residence in India he devoted himself especially to the study of its botany, and collected many new and rare species, some of which he forwarded to Europe, where they constituted acceptable additions to the resources for the embellishment of greenhouses and grounds. His most important publication in this connection was *The Bombay Flora*, embracing over two hundred undescribed species.

The report of the Fish Commissioner of Maryland for the year 1877 is a document of unusual interest, as recording a new era in the history of artificial fish-culture. The well-known floating hatching box of Seth Green, brought into notice several years ago, obviated the previous difficulties in the way of hatching shad to advantage; and the result, in the improvement of the American river fisheries, is well known to all our readers. It has been found almost impossible, however, to use this apparatus in waters where there is no current excepting that of the alternating tides, and where the boxes are liable to be upset by the action of the waves. Mr. Ferguson, the Maryland Commissioner, devised an arrangement by which the motion required for the hatching of the eggs is imparted mechanically, instead of being dependent upon the action of the current, and at the same time secures the eggs against the dangers referred to. The experiment with this apparatus was made in the Susquehanna River at Havre de Grace with entire success; and this device is detailed, as it is now prepared in an improved form, in the present report. It is not too much to say that Mr. Ferguson's invention is as great an advance over that of Seth Green as his was over the methods previously employed.

The report will be interesting to the physiologist also, as containing an elaborate paper by Mr. Rice, of the Johns Hopkins University, upon the embryology and development of the smelt and of the shad.

HUMORS OF THE DAY.

Foote's favorite butt was Garrick, whose thrifty habits he was constantly turning into ridicule. One day, while in company with him, David, after satirizing some individual, wound up his attack by saying, "Well, well, perhaps before I condemn another I should pull the beam out of my own eye." Foote replied, "And so you would, if you could sell the timber."

Mr. Byron, the dramatist, once played in a country theatre at a loss for two nights. "Well," said a friend, who met him on the third day, "did you have a better house last night than the night before?" "No." "What, again?" "No, a loss," replied the wit.

"Give me some cold rice," said a guest at a hotel to a black waiter. "Dere ain't none, Sah." "Why, what's that on the sideboard, in that dish there?" "Dat, Sah, am cole b'iled rice. You asked simply for cole rice, Sah. Please be exact in your language, Sah. Shall I gib you some ob de cole b'iled rice, Sah?"

A German peasant, in early railway days, was taken to see the performance of a locomotive. He had never known carriages to be moved except by animal power. Every other explanation failed to make the matter clear to him. After long reflection, therefore, and seeing no possible escape from the conclusion, he exclaimed, confidently, to his companion, "There must be horses inside!"

THE BROKER AND HIS LOVE.

Sweet maid, with eyes of tender blue,
 Whose cheeks with hues so vivid blend,
My love has fondly pledged to you
 A prompt "perpetual dividend."

I only seek to gain your hand,
 With "margin" fair on that,
Because you fondly understand
 My heart is the "collat."

Our home shall be a scene of joy—
 You may, indeed, on this count—
With happiness without alloy,
 With naught per cent. of discount.

We'll bid love to the highest rate,
 And take in every share;
At premium then will be our fate,
 So free we'll be from care.

With bliss our hearts will fondly beat
 To bless our vows' adoption;
'Tis you can make the pledge complete—
 You have the "buyer's option."

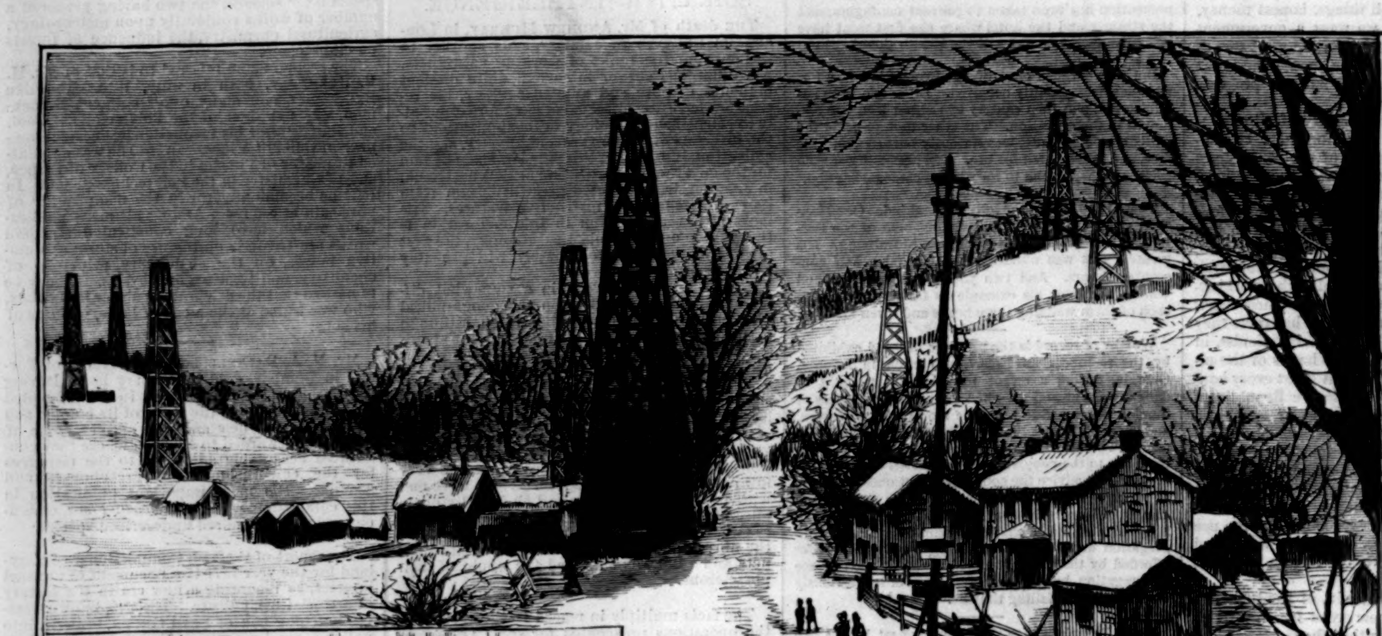
Then let us catch the fleeting hours;
 Speak! speak! and name the day!
We'll wed with ring and orange flowers,
 And all in the "regular way."

A minister did a wedding ceremony "up brown" the other day when he married Mr. David L. Brown, a brown-haired man, clothed in brown suiting, to Miss Minnie Brown, a brown-eyed maiden, likewise dressed in brown.

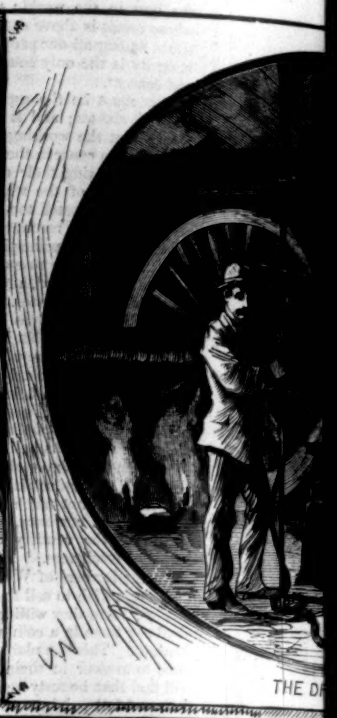
A lawyer, who wanted a postponement, appealed to the judge to "let the broad axe of justice be swung by the hand of mercy." It was swung.

The following is a San Francisco advertisement: "Correspondence is solicited from bearded ladies, Circassians, or other female curiosities, who, in return for a true heart and a devoted husband, would travel during the summer months, and allow him to take the money at the door."

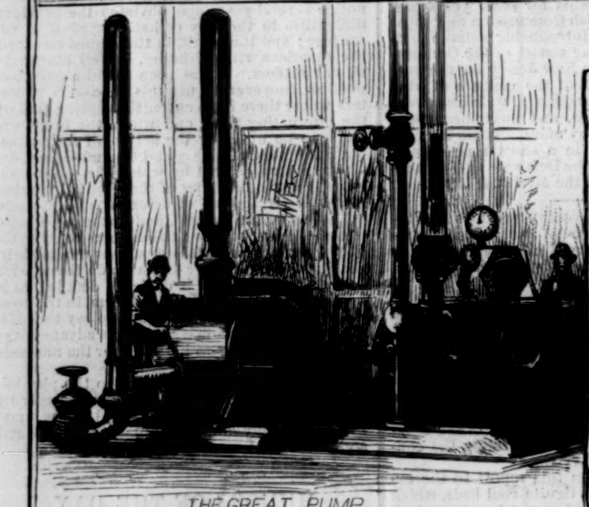
Three Irishmen who had drunk pretty freely of whiskey at a tavern in Dublin were loud in their praise of its virtues as they reeled along the banks of the Liffey. One of them had just declared that "whiskey was meat and drink to a man," when his foot slipped and he fell into the river. "There, Pat," said one of his friends, "you are fully provided for; you had meat and drink, and now you have washing and lodging."



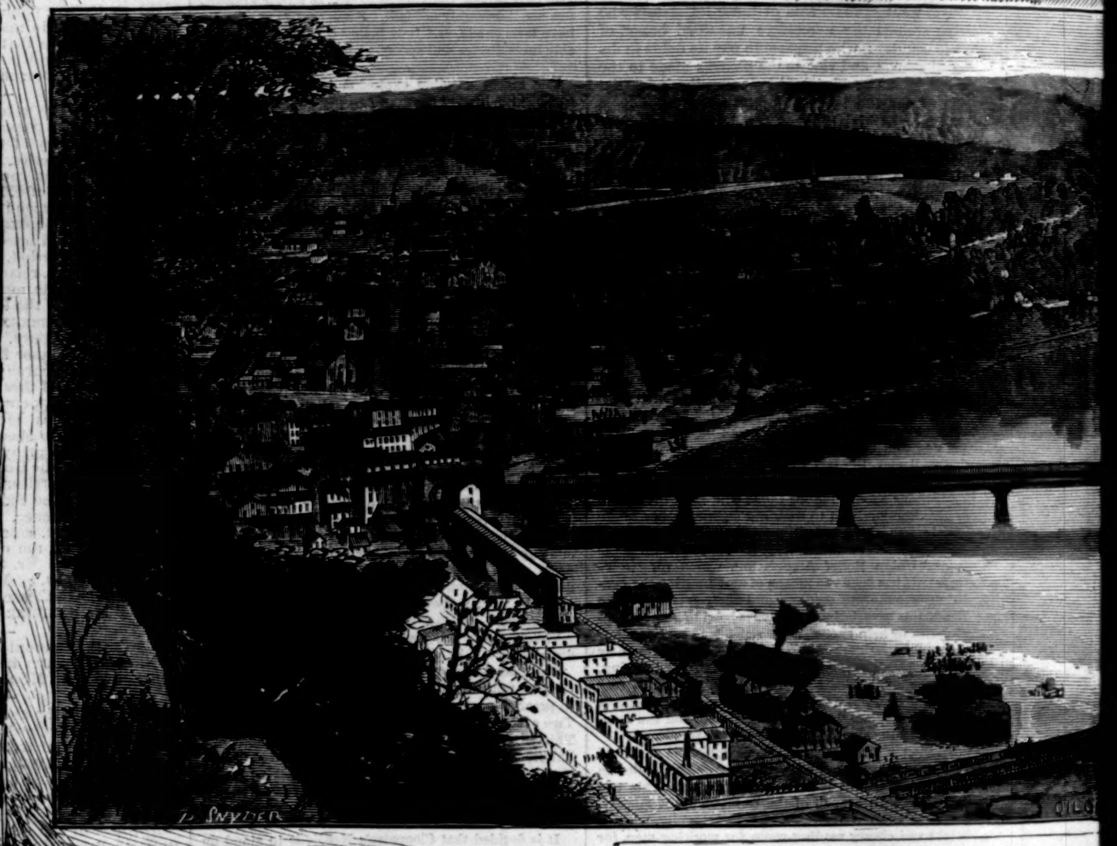
KINCADE FARM.



THE DR



THE GREAT PUMP.



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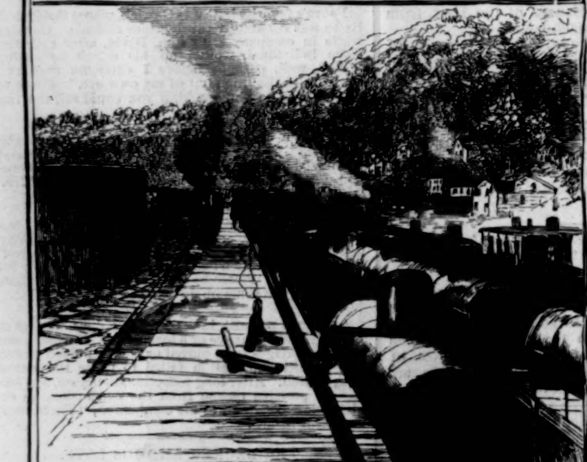
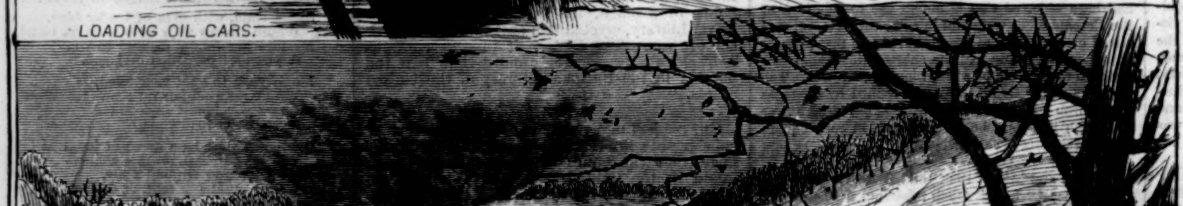
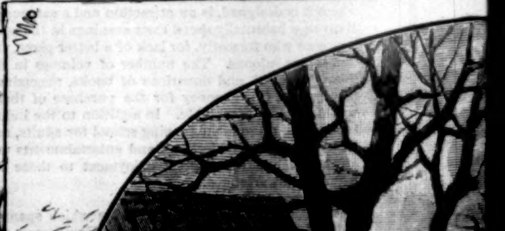


LOADING OIL CARS.

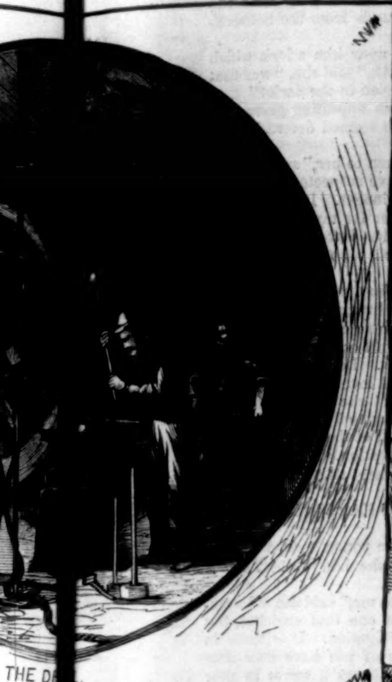


THE TANKS AT BRILLIANT.



WELL PIP

THE OIL REGIONS OF PENNSYLVANIA.—From Sketches by Theo. R



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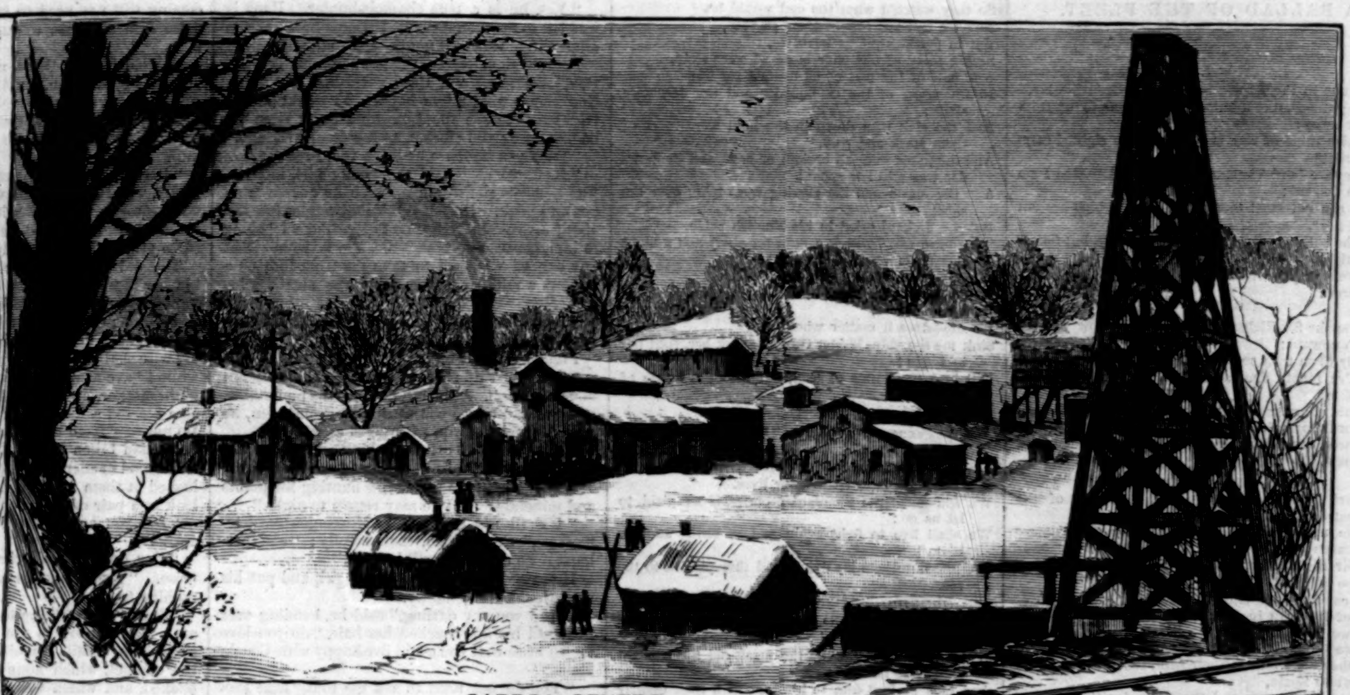

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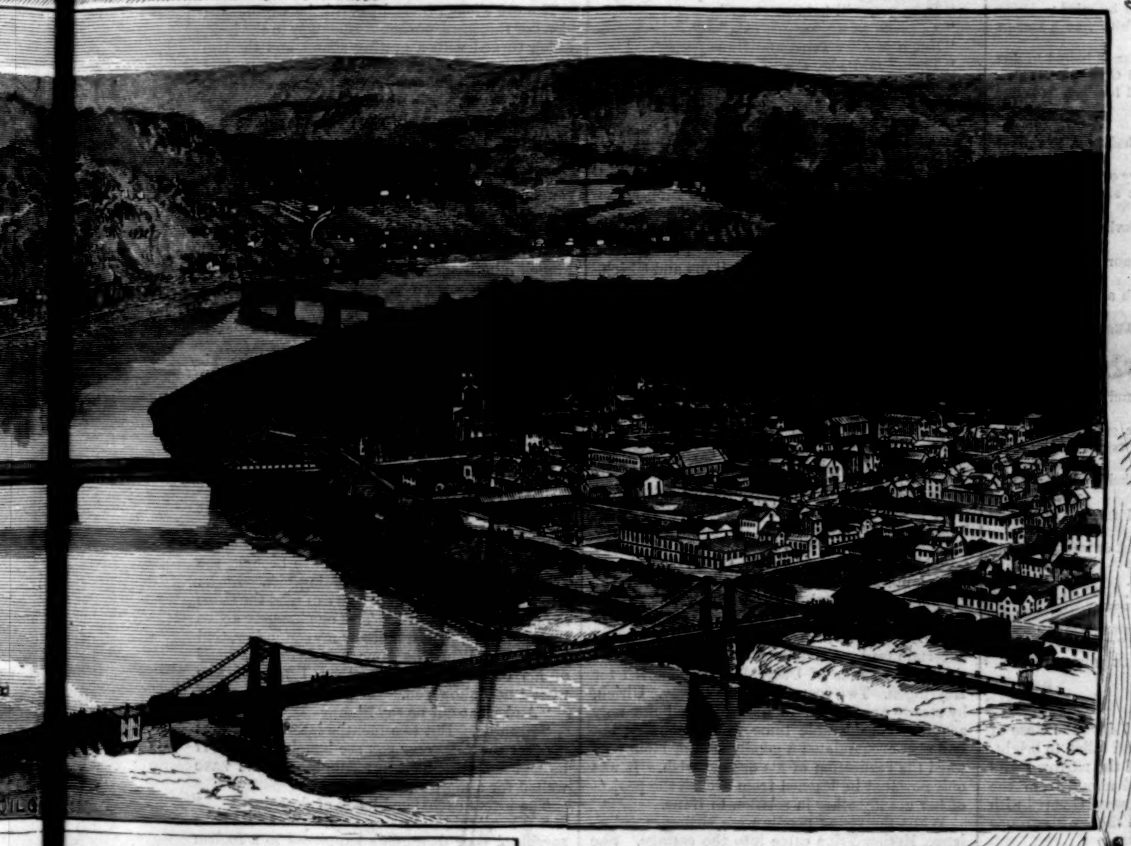

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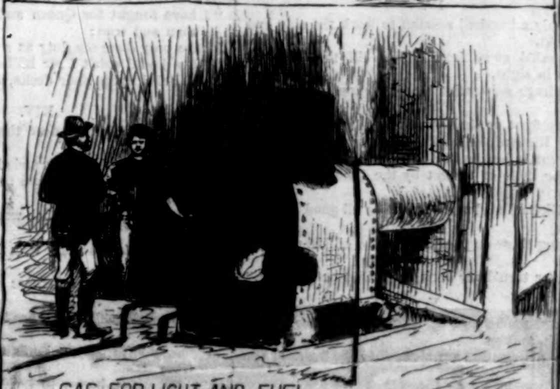
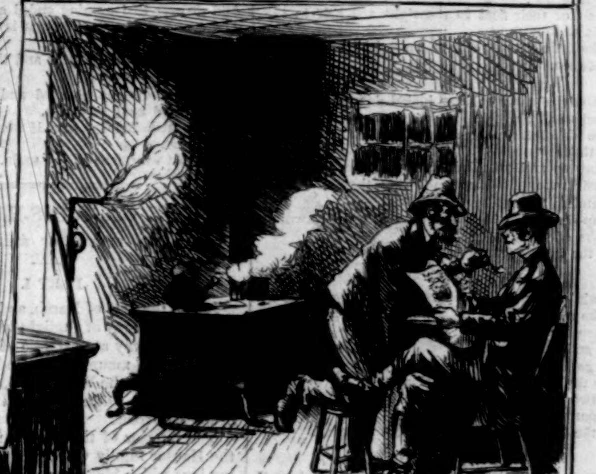


GAS FOR LIGHT AND FUEL.



THE WELL MANS QUARTERS.

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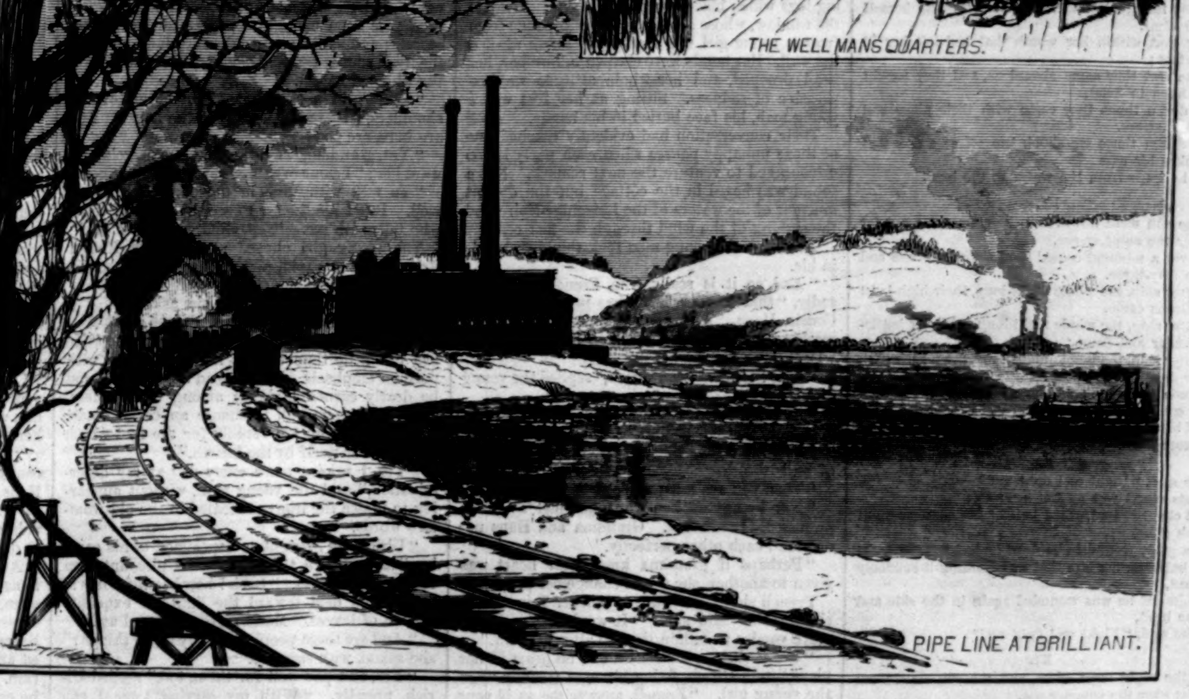


PIPE LINE AT BRILLIANT.

eo. R vis and Photographs by Frank Robbins, of Oil City.—[See Page 250.]

"THE REVENGE."

A BALLAD OF THE FLEET.

By ALFRED TENNYSON.

I.

At Flores in the Azores Sir Richard Grenville lay,
And a pinnace, like a flutter'd bird, came flying from far away:
"Spanish ships of war at sea! we have sighted fifty-three!"
Then sware Lord Thomas Howard: "'Fore God I am no coward;
But I can not meet them here, for my ships are out of gear,
And the half my men are sick. I must fly, but follow quick.
We are six ships of the line; can we fight with fifty-three?"

II.

Then spake Sir Richard Grenville: "I know you are no coward;
You fly them for a moment to fight with them again.
But I've ninety men and more that are lying sick ashore.
I should count myself the coward if I left them, my Lord Howard,
To these Inquisition dogs and the devildoms of Spain."

III.

So Lord Howard past away with five ships of war that day,
Till he melted like a cloud in the silent summer heaven:
But Sir Richard bore in hand all his sick men from the land
Very carefully and slow,
Men of Bideford in Devon,
And we laid them on the ballast down below;
For we brought them all aboard,
And they blest him in their pain, that they were not left to Spain,
To the thumbscrew and the stake, for the glory of the Lord.

IV.

He had only a hundred seamen to work the ship and to fight,
And he sail'd away from Flores till the Spaniard came in sight,
With his huge sea-castles heaving upon the weather bow.
"Shall we fight or shall we fly?
Good Sir Richard, let us know,
For to fight is but to die!
There'll be little of us left by the time this sun be set."
And Sir Richard said again: "We be all good English men.
Let us bang these dogs of Seville, the children of the devil,
For I never turn'd my back upon Don or devil yet."

V.

Sir Richard spoke and he laugh'd, and we roar'd a hurrah, and so
The little *Revenge* ran on sheer into the heart of the foe,
With her hundred fighters on deck, and her ninety sick below;
For half of their fleet to the right and half to the left were seen,
And the little *Revenge* ran on thro' the long sea-lane between.

VI.

Thousands of their soldiers look'd down from their decks and laugh'd,
Thousands of their seamen made mock at the mad little craft
Running on and on, till delay'd
By their mountain-like *San Philip* that, of fifteen hundred tons,
And up-shadowing high above us with her yawning tiers of guns,
Took the breath from our sails, and we stay'd.

VII.

And while now the great *San Philip* hung above us like a cloud
Whence the thunder-bolt will fall
Long and loud,
Four galleons drew away
From the Spanish fleet that day,
And two upon the larboard and two upon the starboard lay,
And the battle-thunder broke from them all.

VIII.

But anon the great *San Philip*, she bethought herself and went,
Having that within her womb that had left her ill content;
And the rest they came aboard us, and they fought us hand to hand,
For a dozen times they came with their pikes and musqueteers,
And a dozen times we shook 'em off as a dog that shakes his ears
When he leaps from the water to the land.

IX.

And the sun went down, and the stars came out far over the summer sea,
But never a moment ceased the fight of the one and the fifty-three.
Ship after ship, the whole night long, their high-built galleons came,
Ship after ship, the whole night long, with her battle-thunder and flame;
Ship after ship, the whole night long, drew back with her dead and her shame.
For some were sunk and many were shatter'd, and so could fight us no more—
God of battles, was ever a battle like this in the world before?

X.

For he said, "Fight on! fight on!"
Tho' his vessel was all but a wreck;
And it chanced that, when half of the summer night was gone,
With a grisly wound to be drest he had left the deck,
But a bullet struck him that was dressing it suddenly dead,
And himself he was wounded again in the side and the head,
And he said, "Fight on! fight on!"

XI.

And the night went down, and the sun smiled out far over the summer sea,
And the Spanish fleet with broken sides lay round us all in a ring;
But they dared not touch us again, for they fear'd that we still could sting,
So they watch'd what the end would be.
And we had not fought them in vain,
But in perilous plight were we,
Seeing forty of our poor hundred were slain,
And half of the rest of us maim'd for life
In the crash of the cannonades and the desperate strife;
And the sick men down in the hold were most of them stark and cold,
And the pikes were all broken or bent, and the powder was all of it spent;
And the masts and the rigging were lying over the side;
But Sir Richard cried in his English pride,
"We have fought such a fight for a day and a night
As may never be fought again!
We have won great glory, my men!
And a day less or more
At sea or ashore,
We die—does it matter when?
Sink me the ship, Master Gunner—sink her, split her in twain!
Fall into the hands of God, not into the hands of Spain!"

XII.

And the gunner said, "Ay, ay," but the seamen made reply:
"We have children, we have wives,
And the Lord hath spared our lives.
We will make the Spaniard promise, if we yield, to let us go;
We shall live to fight again and to strike another blow."
And the lion there lay dying, and they yielded to the foe.

XIII.

And the stately Spanish men to their flag-ship bore him then,
Where they laid him by the mast, old Sir Richard caught at last,
And they praised him to his face with their courtly foreign grace;
But he rose upon their decks, and he cried:
"I have fought for Queen and Faith like a valiant man and true;
I have only done my duty as a man is bound to do:
With a joyful spirit I Sir Richard Grenville die!"
And he fell upon their decks, and he died.

XIV.

And they stared at the dead that had been so valiant and true,
And had holden the power and glory of Spain so cheap
That he dared her with one little ship and his English few;
Was he devil or man? He was devil for aught they knew,
But they sank his body with honor down into the deep,
And they mann'd the *Revenge* with a swarthier alien crew,
And away she sail'd with her loss and long'd for her own;
When a wind from the lands they had ruin'd awoke from sleep,
And the water began to heave and the weather to moan,
And or ever that evening ended a great gale blew,
And a wave like the wave that is raised by an earthquake grew,
Till it smote on their hulls and their sails and their masts and their flags,
And the whole sea plunged and fell on the shot-shatter'd navy of Spain,
And the little *Revenge* herself went down by the island crags
To be lost evermore in the main.

THE CHAMOIS-HUNTERS.

FROM THE FRENCH OF ÉMILE SOUVESTRE.

PART I.

It was the first of March, and since the close of October not a ray of sunlight had fallen to brighten the dull gray atmosphere of the narrow Swiss valley. The mountains round about, from the Iselten Alp to the Wetterhorn, were covered with dazzling snow, dotted here and there with groups of dark fir-trees.

The interior of the small thatched cottage of the Hauser family was lighted only by the burning logs which blazed upon the hearth. Near to the window, whose small panes were opaque from frost, a young girl was standing, leaning against the wall. Her hands were clasped before her, her head drooped, and her whole attitude was expressive of sadness. Sitting at her feet was a young man, his face buried in his hands.

Their conversation had evidently reached one of those unhappy pauses when each party is too discouraged to venture the next remark. Not a sound was heard in the cottage but the distant murmur of the waters of the Lütschine-Noire and the sighing of the wind through the fir-trees.

At length the young man took the girl's hands in his.

"And so it is really true, Freneli," said he, sadly, "that Mother Trina has promised you to Cousin Hans. And all the while I have been working with so much courage in the hope of winning you for my wife!"

"Alas! it is too true, Ulrich," replied the young girl.

"But if I have understood you, she has not yet spoken to you nor to him."

"You are right. She has said nothing to either of us."

"Then you are not promised to your cousin?"

"Not by any spoken word, but just as much promised, for all that. Grandma and Hans understand each other perfectly."

"Perhaps if grandma knew your heart was given to another, she would change her purpose."

Freneli shook her head. "Mother Trina is unchangeable," said she. "It would be easier to move yonder mountain than to alter her will."

"But perhaps your cousin has no heart in her plans," said Ulrich, fixing his eyes steadily upon the young girl. "Freneli, answer me as if your hand was resting upon the Bible, has Hans ever spoken to you of love?"

"Never. You know the words of Hans are as rare as gold pieces."

"Yes, he is a true chamois-hunter. Hans is wedded to the mountains. Perhaps he wishes no other wife. Would it not be well to tell him all?"

Freneli shuddered. "Not upon your life, Ulrich," said she. "If Hans suspected any thing, God knows what might happen. I would be less frightened to see the Lütscnine burst from its bed, carrying all before it, as it did one year ago."

"Then you are sure he loves you, Freneli?"

"He loves me," said the young girl, bitterly, "as he loves the chamois which he chases from peak to peak. Do you think he troubles himself about my consent? Oh no! He thinks I belong to him, because he wishes me, and he would treat any one who wished to take me from him as a hunter would treat one who was stealing his game."

"Every body is against me," said Ulrich, turning away.

Freneli did not reply. "There is one who is your friend," said she, softly, after a short silence—"Uncle Job. Although he loves the mountains, and was sad to see you turn away from them, he always speaks of you with great affection."

"But Uncle Job can do nothing against the will of grandmother. And then he is not here now."

"No, he is in the mountains hunting for plants and minerals. But he may return to-night."

"I shall not go back to Meyringen until to-morrow," said Ulrich, thoughtfully; "and perhaps if he comes he will help us."

He came nearer to the young girl, and put his arm around her tenderly.

"And you, my darling," said he, bending over her until his lips touched her hair, "do you love me so little that you could live happy with Cousin Hans?"

"You do not need to ask me that," said Freneli, trembling, and striving to escape his grasp.

"Then you will help me too?"

"As much as a poor girl can."

"But if Mother Trina and Hans persist—"

"Then," said she, weeping, "we shall be very unhappy."

The young man struck his forehead with his hands, and the young girl sobbed audibly. Neither of them dreamed of the possibility of disobedience. The simple domestic life of the Swiss valley allowed no questioning of the paternal will. The power of the head of the family was absolute as that of Abraham.

Freneli's parents had died when she was an infant, and her grandmother possessed entire control over her. The two cousins, Hans and Ulrich, were also brought up under her care, and when of sufficient age had both become chamois-hunters. But Ulrich possessed no passion for that dangerous life; his instincts led him in a different way. Whenever he passed through the valley of Lauterbrunnen he fell into rapturous admiration of all the exquisite leaf forms of maple and of yew, and every rude bit of carving on the shrines by the way-side excited him to try his own skill in that way. Many an hour he sat in some secluded nook, his rifle lying unheeded at his feet, while with his knife he worked out delicate forms from the rough wood. As his reputation for a hunter declined, that of skillful carver increased. At length a wood-carver of Meyringen offered to take him into his workshop. Ulrich joyfully accepted, not alone because it was the realization of all his desires, but because the new way of life would enable him to offer a surer and better support to Freneli—whom he loved tenderly—than the uncertain trade of a chanois-hunter. Placing his rifle in the hands of Uncle Job, he departed for Meyringen. Two years had passed away. Ulrich, by steady application to his work, had not only acquired considerable fame in the country, but had also accumulated a goodly sum of money toward the realization of his dearest wish. It was only now that he learned from Freneli the project of her grandmother in relation to Hans.

While the young people were sitting in sad silence, Mother Trina came into the cottage. She was a woman of over seventy years of age, wrinkled and haggard, but with a step as firm as if her joints had been made of steel. Her sharp gray eyes were keen enough to penetrate the deepest secrets; and as she crossed the threshold, and saw the two young people together, she understood the whole situation.

"Ah!" said she, with a slight shrug of her shoulders, "there is company in the house. You are here, are you?"

"Yes, grandma," said the young man, going toward her; "I came over to-night from Meyringen."

"To talk with 'Neli in the dark, eh? Very well. But I like better to see the faces of those who talk with me. 'Neli, child, light a candle."

The young girl obeyed at once, and Mother Trina threw a rapid, penetrating look upon Ulrich and her granddaughter.

"Has Hans returned yet?" she asked.

"Not yet, grandma," replied Freneli.

The old woman turned toward Ulrich. "He has but little time to rest here," said she, with peculiar emphasis. "The bread that we eat must be dearly earned high up among the glaciers. Thou hast done well to choose an easier trade. The chamois run too rapidly for the foot which loves to rest itself by the hearth."

"Yes, I rejoice more every day at my determination," said the young man, without appearing to notice the irony concealed in the old woman's words.

"Ulrich has brought us a specimen of his carving," said Freneli, trying to give a pleasant turn to the conversation. "Look! how beautiful it is!"

And she held toward the light an exquisite branch of leaves. Mother Trina glanced at it.

"And are there people who buy these things?" she asked, with surprise.

"Yes, and pay well for them, too," replied Ulrich, proudly. "With my carving tools I can earn more money in one week than Cousin Hans with his rifle in a whole month. And then I have not always before me the chance of sudden death. The wife who sits at home and waits my coming will not need to tremble every time the noise of avalanches resounds from the Schreckhoerner."

The old woman threw upon him a look which made his eyes droop. "Ah," said she, "was that what you were teaching 'Neli in the dark?"

The young girl made an appealing gesture to arrest his answer, but he seemed determined to know his fate at once.

"It is true, I have spoken to her," said he, earnestly, "and since you have suspected it, there is no use to be silent any longer. I have always loved 'Neli and wished her for my wife, and for three years I believe she has loved me."

The old woman turned toward Freneli, who hid her face, blushing.

"You have known me from my cradle," continued Ulrich; "I have been brought up as your son, and you have never found me cruel nor cowardly. My wife shall never weep if I can help it, nor want while I have arms to work. Let Freneli be mine, grandmother, and we will love you all our lives as a blessed saint. Look! she entreats with me. Do not tear from us all hope of happiness."

He had taken the hand of the young girl, and they stood in silent supplication. The old woman looked at them for a moment as a vulture might look at a pair of doves.

"Did you ever hear of Freneli's dowry?" she asked.

"Her dowry!" said the young man, with surprise. "I never knew she had one. That is nothing to me."

"But it is something to me," said the old woman. "Her dowry is not one that enriches, but one which entails an obligation. It is there in the cabinet, which none of you have ever seen opened, and which was always a terror to your childhood."

The old woman turned toward the worm-eaten piece of furniture, pushed a rusty key in the lock, which turned with a grating sound, and the two doors flew open. In the darkness of the cabinet could be distinguished several chamois skulls with the horns. The white bones stood out from the dark background in such strange silhouettes that Freneli could not restrain a cry of horror. Her grandmother turned toward her.

"Foolish creature!" said she, sharply, "have you so little heart that these dry bones startle you?"

"It came so suddenly," said Ulrich. "But what does all this mean, and from whom did Freneli inherit such a strange dowry?"

"From her ancestors," replied the old woman, solemnly. "Although thou art a poor hunter, Ulrich, thou wilt see that each one of these relics belongs to a chamois *Empereur*."

The young man knew the traditions of the valley sufficiently to perceive that each skull and pair of horns were of a size to belong to an *Empereur*, as a chamois is called when his age is so great that his descendants form a tribe which recognizes him as its leader.

"You know well," said Mother Trina, "the difficulty of obtaining a skull like these. One must possess the skill of the Black Hunter to mount the lofty peaks and bring down such rare game. For years those who have dared to ask the daughters of our house in marriage have brought the head of an *Empereur* as a wedding gift. Look: under each of these skulls you can read the name of one of our ancestors. This one hanging above the others was placed there by my son-in-law, God help him! When he came to ask for the hand of his cousin, Freneli's mother, I showed him what I now show you."

"And what did he say?"

"Nothing. But two months later he threw at my feet the *Empereur* you see hanging there. If he had not brought it, my daughter would have waited for a more skillful hunter."

The lovers exchanged looks of despair.

"What," said the young man, "you would have sacrificed your daughter's happiness to a foolish whim!" And noticing the sarcastic fire which gleamed from the old woman's eye, he continued: "The wishes of those who marry is, then, of no consequence? You do not seek to make your daughters happy, but to have in your family the best hunter in the mountains."

"And we have always had it," said the old woman, proudly.

"But what has he brought you?" asked Ulrich. "Poverty, anxiety, and widowhood. Where are those of whom you are so proud? The avalanche has been their coffin, and the precipice their tomb."

"Did I speak of a long life, of repose or of riches?" said Mother Trina. "In the old histories which our children read during the long winter evenings are tales of noble families whose sons all perished in the wars. Our sons die on the mountains. There is their battle-field. Shame to the one who dies in his bed!"

Freneli clasped her hand with an exclamation of horror, but the old woman interrupted her imperiously. "Peace, peace, foolish child!" she said. "I was not speaking to you. Thank God, it is your place to listen and obey. I am talking to him who has inquired how husbands are accepted here. He knows now what is necessary."

"And will no man be accepted unless he complies with the conditions? Not even Cousin Hans?"

"Hans has asked nothing. His duty is to provide our daily food. If he ever gains the right to demand a favor, we shall see."

As she spoke these words a sound of rapid footsteps was heard outside, the door was pushed open, and Hans entered the cottage. He was dressed in complete hunter's costume of gray, heavy leather shoes, and felt hat, the whole stained and torn by many encounters with wind and rain. At his side hung the hatchet with which he cut footsteps in the snow upon the high peaks, and the leather cartridge-box containing his ammunition. He came in with all the violence of a storm, and stood still in the middle of the cabin, letting the end of his rifle fall heavily upon the floor. Mother Trina saw at once that he had been unsuccessful in the chase. Without saying a word she made a sign to Freneli to brighten up the fire, and she herself went to the cupboard, from which she took food for a frugal evening meal. It was not until then that the new-comer noticed Ulrich.

"Good-evening, Hans," said Ulrich, as he met his cousin's eye.

Hans made no answer, but casting a rapid glance at Freneli, he surprised her exchanging looks with her cousin. He leaned his gun against the wall, and without speaking sat down on the block of wood which served as a chair in the chimney-corner, and stretched his frost-covered feet toward the fire. Although Ulrich had long been accustomed to the morose manner of his cousin, he appeared somewhat surprised at the lack of courtesy, and not a little annoyed. Folding his arms, he leaned against the wall by the opposite side of the hearth.

"The chamois were evidently not plenty on the Alpine pastures," said he, with scarcely concealed irony, "since Cousin Hans returns empty-handed."

The hunter shrugged his shoulders, and replied, scornfully, "Who ever said the chamois were plenty on the Alpine pastures, when the thaw allows them to find feeding grounds on the highest peaks?"

"Then they went so high that my cousin did not wish to follow them," said Ulrich.

Hans's eyes flashed fire. "I have been on the Schreck-hoerner," said he, with peculiar emphasis.

At that name both the old woman and young girl turned suddenly, and Ulrich himself started. The character of the Schreck-hoerner, or Peaks of Terror, is fully expressed by their name, and only the most daring hunters—those who seek the chamois in their most lofty resorts—venture upon them.

"The Schreck-hoerner!" said Mother Trina, in a low voice. "Were you really upon the Schreck-hoerner?"

"Why not?" said Hans, sharply.

"They were all lost there," muttered the old woman to herself. "The father of Freneli, the father of her mother, and the father of her grandfather. There is an old hatred between our family and the Schreck-hoerner."

"And even on those lofty summits you found nothing?" asked Ulrich, interested in spite of himself in the daring of his cousin.

"Who told you so?"

"Then you did see tracks?"

"I saw much better things than tracks."

"What did you see?"

"A troop of chamois with their *Empereur!*"

The three listeners uttered exclamations of delight. In those wild Swiss valleys chamois hunting forms the grand point round which are clustered all the charms of romance and adventure. It is the soul of all fireside tales, and the inspiration of all popular ballads and legends, and its hold upon the imagination of the people is of wonderful power.

Therefore, at Hans's statement, all three drew near him, bending toward him with eager questions.

His sun-burned features lighted up with a gleam of triumph.

"Oh yes, I saw them," said he, extending his hand as if pointing to an imaginary troop on the mountain-side. "They were in one of the clefts which open near the foot of the *petite dent*. I examined them well with my glass, and then, throwing myself on my knees, I crept cautiously toward them. I had just come within gunshot of the chamois placed as sentinel, when he felt the approach of danger, bounded away to warn the others, and the whole troop disappeared behind the crags, their *Empereur* at their head. There were nine of them."

Mother Trina shuddered. "Are you sure there were nine?" said she. "Did you count them?"

"As sure as I am of the number of fingers on my hand."

"And they were led by an *Empereur*. You are not mistaken?"

"Do you take me for an imbecile?" replied Hans, scornfully.

The old woman said nothing. She stood with clasped hands, her eyes cast down sadly.

"I followed the troop for three hours," continued Hans. "They went along the side of the peak, and crossed the glacier of the Viescherhorn. Four times, by taking a shorter path, I drew near enough to hear the whistling signal of the *Empereur*, but some crevice or rock always stopped me from reaching a place where I could take aim at them."

"Where did you at last lose sight of them?" asked Mother Trina.

"When they reached the Eiger. There they turned behind a wall of rock and disappeared."

"That is always the way," said the old woman, thoughtfully: "nine chamois, led by an *Empereur*, enticing the hunter on and on, and at last disappearing among the rocks. Freneli's father saw just such a troop one month before he died."

Hans shuddered in spite of himself; but after a moment's silence he said, "So you believe that was a troop of phantom chamois?"

"Who knows?" replied the old woman. "It is said the evil spirits are at home among the high mountains."

"I can well believe that," said Hans. "I have passed many a night on the Jungfrau when I have heard them howling under the glaciers. But who cares? For eleven years I have braved them in their haunts, and as long as I have my axe and rifle at my side I fear neither man nor devil. If the troop I saw this morning were phantoms, I swear that, for all that, they shall feel my rifle-balls—so help me God!"

Freneli and Ulrich exchanged glances. Educated in the simple faith of the Swiss valleys, they regarded the regions of eternal snow with awe and horror, as a place where man must venture with fearful caution. Hans's audacity appeared to them something awful. The old grandmother seemed to share their feelings, for she shook her head, muttering, "You never should irritate the invisible enemy, Hans."

But the young hunter was too much excited to be silenced by any fireside superstition. He sprang to his feet, and striking his fist upon the table, cried out: "Mother Trina, I care as little for your foolish fears as the marmot sleeping among the rocks on the mountain. Listen—and you too," he said, turning toward Freneli with a significant look: "before eight days, I swear by my life to place before you the head of the *Empereur* of that very troop I saw this morning!"

Ulrich turned pale with terror. He knew his cousin's words were never lightly spoken, and that a promise of that nature would be kept by him at any price.

No one in the small room ventured to speak after Hans's rash vow. At length Hans himself broke the spell by sitting down at the table, on which the old woman had placed a meagre repast of black bread and cheese. He turned toward the wood-carver, and remarked, carelessly,

"I suppose my cousin is not tempted to share a hunter's supper. After the dainties of Meyringen, it is no use to offer him fare like this."

"Who speaks of a poor supper?" said a cheery voice at the door.

Freneli and Ulrich both ran to meet Uncle Job, who entered, holding his alpenstock in one hand and a large basket in the other. In his belt was his stone-hammer, and swinging over his shoulder the tin box for specimens. Freneli began tenderly to relieve the old man of his load, but he handed her only the basket.

"Careful, 'Neli! careful, my child!" said he, gayly. "That contains neither grasses, nor stones, nor butterflies; it is a timely answer to Hans. Was he not speaking, as I entered, of poor fare? Lift the cover, 'Neli, and show what I have brought."

The young girl opened the basket, and took from it eggs, smoked bacon, white bread, and a small bottle of Kirschwasser. The hunter, who had looked indifferently on the delicacies, uttered an exclamation of pleasure at sight of the small bottle.

"Ah, that cheers you up a bit, does it?" said the old man, slapping Hans heartily on his shoulder. "By my faith, I am glad to find a chink in your heart through which I can send in a ray of light. Good-evening, Trina; you have grown young since day before yesterday. Come, 'Neli, place the food on the table. Sit down, Ulrich; to-night we will all take supper together."

While talking, the old man had taken off his heavy load, and now seated himself at the table among the young people. He opened the Kirschwasser, and poured out a small glass for each. Then he inquired kindly if Hans had taken any game that day. The hunter replied with a silent negation.

"And how goes it with you at Meyringen?" said Uncle Job, turning to Ulrich.

The young man repeated what he had already told to the others, but in a tone so full of weariness and dissatisfaction that Uncle Job fancied the easy life possessed, after all, less charm than the independence and danger of the mountains. For over forty years Uncle Job had been familiar with all the fatigue and peril of Alpine solitudes, but he had seen in them only beauty and sublimity. While Hans, driven by furious inward passion, had scaled the precipice and dared the avalanche in pursuit of prey, fancying himself combating demons at every turn, the old man had overcome all obstacles with patient persistence, seeking only for plants, insects, and minerals, and reverencing and loving the mountains with child-like simplicity. Nothing troubled his inward serenity. As youth retired, it left behind a ray of light in his heart, as the sun throws its glistening beams upon the high mountain peaks long after he has departed.

During supper the old man succeeded in imparting some of his spirits to the whole company, with the exception of Hans, who drank his Kirschwasser and ate his simple meal in silence.

"Listen," said Uncle Job. "To-day I saw a magnificent piece of crystal on the side of a cliff. I threw a stone, which broke it from the solid rock, and it fell with a ringing sound like a bell into a crevice below."

"Did you find it afterward?"

"Not to-day. It was not such an easy matter. Oh no. The crystal caught on a ledge of rock just on the verge of the ravine. But I can reach it to-morrow with my rope-ladder. Apropos, Hans, in crossing the Wengern Alp I saw tracks of a great number of chamois. I can tell you just where they were."

"Thank you," replied Hans, coldly. "I have seen tracks in another place."

"But I saw a great many," said Uncle Job; "and you know the Wengern Alp is an easy hunting ground."

"I do not care for easy hunting ground," said Hans. And casting a sarcastic glance at his cousin, he added, "Formerly Ulrich might have been tempted by it."

"I am now," replied the young wood-carver. "Uncle Job, if you will show me the way, I will amuse myself hunting to-morrow."

"You!" cried Hans, in astonishment. "Good heavens! are you in earnest?"

"You will believe it when you see me take my gun and go with Uncle Job to-morrow."

"Can this be true?" cried the old man. "You will give up your profession and return to the mountain life?"

"I am going to try it."

"Then you will not return to Meyringen immediately?"

"If you will permit it, I will sleep under your roof to-night, Uncle Job."

"And to-morrow?"

"To-morrow you shall give me back my rifle, and take me with you to the Wengern Alp."

The old man sprang to his feet. "Thank God!" he cried. "Our lost son returns to us. Trina, did you hear what he promises?"

"Words are idle," said the old woman, coldly; "let us wait for actions."

"We shall see—we shall see," exclaimed the old man. "Upon my soul, I believe Ulrich will recover his taste for the old life. To-night I shall pray our Father to give him good luck, and perhaps the *Empereur* of the chamois will fall by his bullets."

"Ah yes, Uncle Job," said Ulrich, seizing the old man's arm, "entreat God for that. For such a triumph I would give half my life."

While speaking these words the young man cast a glance at Freneli which made her blush and tremble from head to foot. Hans's quick eye detected the whole. His brow contracted, and his lips pressed tight together, but he said nothing; and as Ulrich and Uncle Job went away for the night, he fixed a scrutinizing glance upon the young girl, which made her shudder. Then, with the air of a man who has at last clearly settled a doubtful point, he took his rifle and silently left the cabin.

[TO BE CONTINUED.]

RELIGIOUS INTELLIGENCE.

Calendar.

MARCH.

Sunday, 31.—Fourth Sunday in Lent.

APRIL.

Sunday, 7.—Fifth Sunday in Lent.
Sunday, 14.—Sunday before Easter.
Friday, 19.—Good-Friday.
Saturday, 20.—Easter-Even.
Sunday, 21.—Easter-Day.
Thursday, 25.—St. Mark, the Evangelist.
Sunday, 28.—First Sunday after Easter.

The details of the famine in North China are appalling. Sir Thomas Wade, the British ambassador to that empire, has spoken of it as "perhaps the widest-spread and most fearful scourge that has befallen humanity for the last 200 years." It began in 1875, and has been growing each year worse and worse. Its origin is ascribed to the drying of the soil caused by the cutting away of all forest growths. "Fancy," says Sir Thomas Wade, "a country larger than thirteen Switzerlands a prey to want that it is well-nigh impossible to relieve. The people's faces are black with hunger; they are dying by thousands upon thousands. Women and girls and boys are openly offered for sale to any chance wayfarer. When I left the country, a respectable married woman could easily be bought for six dollars, and a little girl for two. Corpses lay rotting on the highway, and there was none to bury them. As for food, the population subsisted for a long time on roots and grass; then they found some nourishment in the willow buds; and finally ate the thatches off their cottages." From this they have descended to tree bark, potato stalks, and slate stone! Assistance has so far come from the foreigners residing in the treaty ports, and has been disbursed through Christian missionaries. The effect of the disinterested labor of the missionaries for the relief of the suffering has been great on the minds of the Chinese. English charity, which now has the Eastern world for its beneficiary, and which was busy last year in succoring India and Bulgaria, is again becoming active for the relief of this second recent famine in China. Professor Legge, of Oxford, at a meeting held in London, expressed the hope "that the missionary societies would be foremost with their help, for, to his mind, there would be no surer means of pressing on missionary enterprise than by practically preaching the gospel of charity and good-will to all men."

Mr. Moody closed his series of meetings in Springfield, Massachusetts, on March 8, and, as usual, with great throngs gathered about him. In order to keep many persons from occupying the City Hall all the day, to the exclusion of others who were not so fortunate as to obtain seats, it was found necessary to clear it after the morning service. "As it was," says the Springfield *Union*, "the stairs outside of the gates were crowded at one o'clock, and there was a great rush when the gates were opened at two." Measures have been taken for the continuance of the meetings by the pastors of the city.

It is announced that about thirty of the bishops of the Protestant Episcopal Church in this country will attend the Pan-Anglican Synod, which meets at Lambeth in July. Some of them, no doubt, will remain long enough in England to attend the Church Congress, which meets at Sheffield in the autumn. Bishop Potter, of the diocese of New York, has been invited to be one of the vice-presidents of the Congress.

The session of the Southern Methodist General Conference which begins on the 1st of May at Atlanta, Georgia, will be one of much importance. The condition of the publishing house at Nashville has for several years been very unsatisfactory, and demands immediate attention. Severe strictures upon its management in the Southern Methodist papers, and calls for the sifting of its affairs to the bottom, reveal a wide-spread discontent. It is likely that one or two bishops will be elected, and that a new hymnal will be ordered. The work of the Commission on Fraternity will also be reviewed. The Rev. Dr. Cyrus D. Foss and the Hon. Will Cumback, of Indiana, are the fraternal delegates from the Northern Methodist Episcopal Church to this Conference.

The shutting up of the cardinals when they are about to elect a new Pope is not, if we may believe the accounts from Rome, a dreary imprisonment. At the recent meeting of the Conclave they were supplied, before being cut off from the world, with all the modern conveniences. Electric bells facilitated communication. A magnificent kitchen with gas cooking stoves was set up. If the cardinals were shut in, their cooks were not shut out. Each one occupied three rooms, and was attended by his chaplain and valet. Barbers were not forgotten. Altogether when the key was turned there were over 200 persons in the company; the Conclave was not, therefore, by any means a solitude.

The plan tried in Scotland several years ago of giving Sunday morning breakfasts to intemperate persons has been adopted in Providence. It has been also followed in this city at one of the down-town missions. Religious services are held in connection with the breakfasts, and the pledge is offered to all who come.

At a recent session of a Southern Methodist Conference in Baltimore the Rev. Dr. C. F. Deems, of this city, gave a very interesting account of the Church of the Strangers, of which he is pastor. The edifice was purchased for him by the late Commodore Vanderbilt. He said: "The church is independent. The Apostles' Creed is the standard of faith; the pastor holds all the authority, and God the rule. In ten years he had received 870 members, of whom 560 now remain. All shades of opinion are represented in his congregation, from the strictest Calvinism to the last stage of liberal orthodoxy, but there had never been the slightest jar or discord. There was no church debt. His greatest harvest-time was in those months when most other churches were closed. He preached the same old Methodist sermons that he did when a member of Conference, and always found the most effective to be those he had preached to the colored people while riding a circuit in North Carolina."

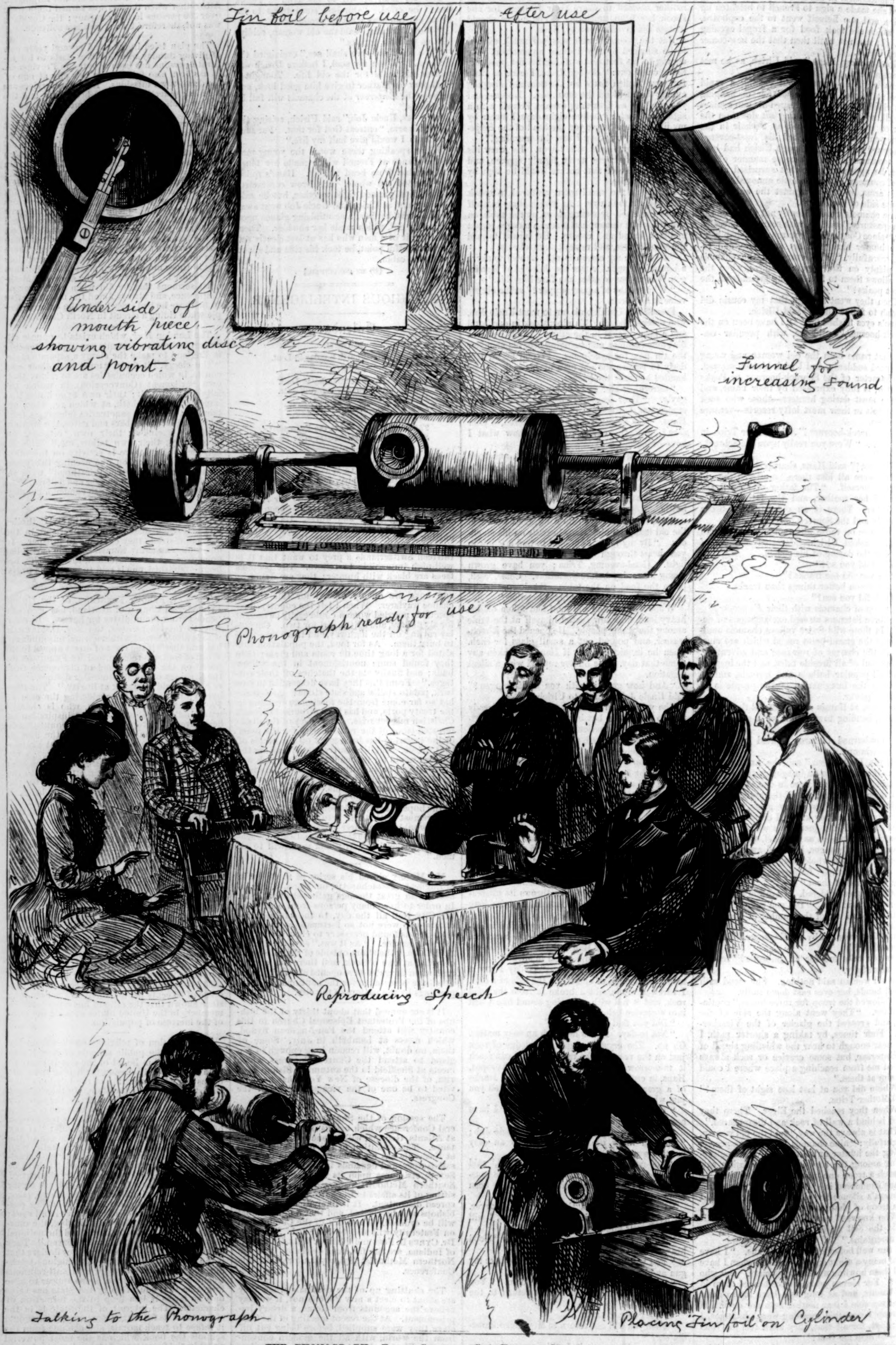
The London *Rock*, which exists to oppose ritualism, thinks that events are rapidly tending in England to make the clergy a separate caste. "The clergy," it finds, "must have their own courts, in which ecclesiastics are to reign; their own Parliament (Convocation), in which the laity are *not* to sit; their own Synod, like that impending at Lambeth, at which reporters are tabooed; their own sanctuaries (chancels), from which, by means of bars and gates, the laity are jealously excluded; their own 'retreats,' for clergy only; their own tailors, etc." This all may be so; but there is activity on the other side. For instance, on one evening thirty sermons on the "Christian Priesthood" were recently preached in Manchester and Salford. The object of the preachers was to condemn the dogma of a sacrificing priesthood.

Despite the failures made by the Old Catholics in the French districts of Switzerland, in the German districts they continue to prosper. In one canton an entire Roman Catholic parish has gone over. A new periodical, the *Katholik*, has been established, and is said to have good promise of success.

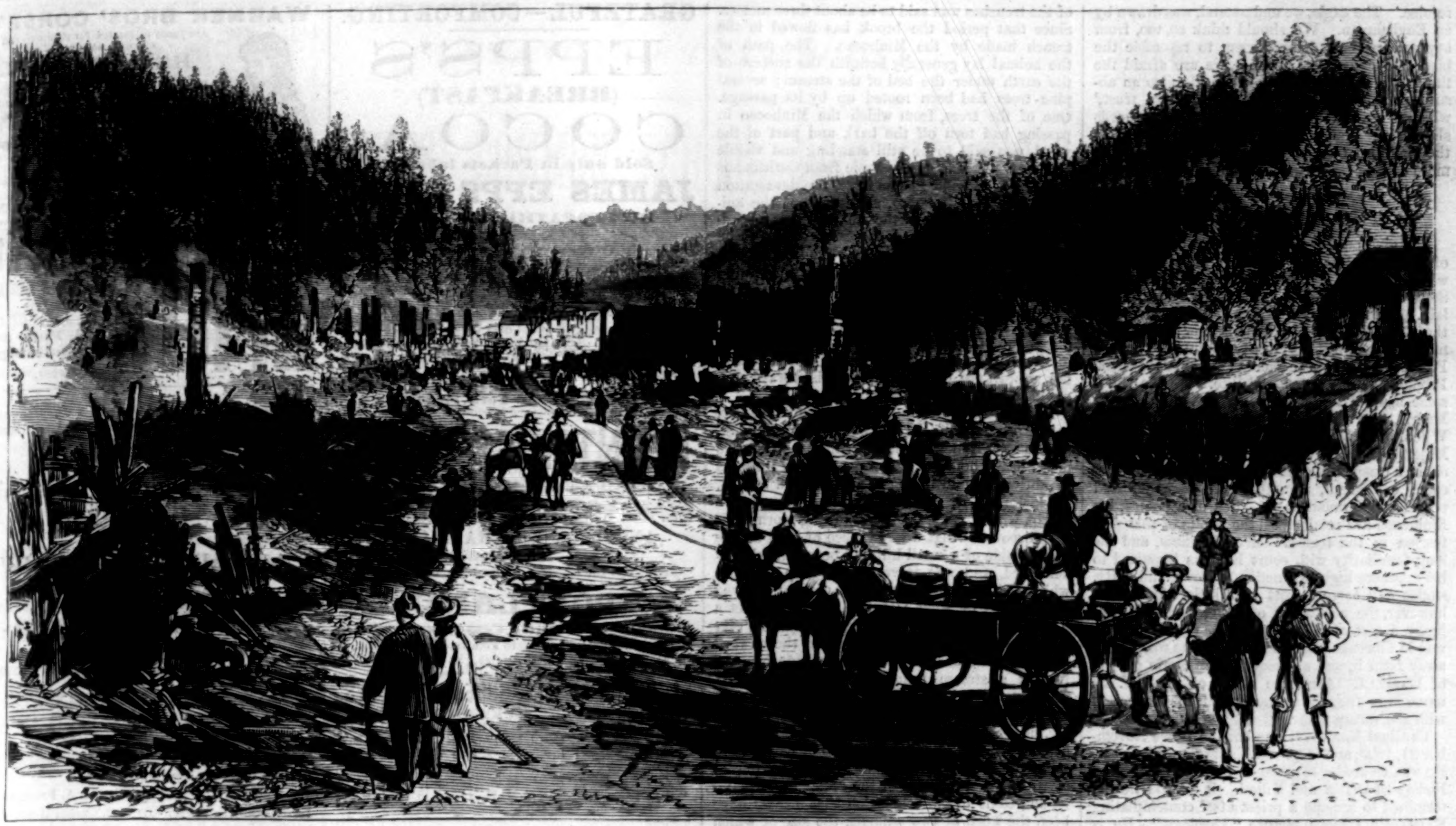
The Rev. Fergus Ferguson, of the United Presbyterian Church of Scotland, has been suspended from the ministry for heresy. In referring to this suspension, the Rev. D. Macrae, who is also charged with doctrinal unsoundness, has said that "if the right of direct appeal to the Word of God was refused, and Mr. Ferguson deposed on the mere ground of divergence from the theology of the Westminster divines, another blow would be struck at liberty." The Presbytery of Aberdeen is considering the case of Professor Robertson Smith, who is charged with holding loose views of the inspiration of Scriptures. The trial had at last accounts reached the second and third articles of the libel or charge. The second article stated that Professor Smith had declared the Book of Deuteronomy not to be the work of Moses, but to have been written by a later author, and attributed to the Hebrew legislator. This was decided by the Presbytery to be not relevant, the vote being 26 to 20. The third article was also decided to be irrelevant, by a vote of 25 to 10. It charged Professor Smith in general terms with lowering the historical books of the Old Testament to the level of uninspired writings.

A correspondent of one of the *Western Christian Advocates* has made a comparison of the statistics of the Methodist Episcopal Church in 1852 with those for 1877. In 1852 the members and probationers were 721,804; they are now 1,671,608—an increase of 130 per cent. In the same period the population of the United States has increased 71 per cent. In 1852 the travelling ministers were in number 5100; now they are 11,269—an increase of 120 per cent. In 1852 the whole annual sum raised for Christian missions by the Church was $152,382—an average of not quite 21 cents per member; in 1877 it was $603,544—an increase of 297 per cent., and an average of 36 cents per member. It has been long since shown that the ratio of increase of church members in the United States exceeds the ratio of the increase of population.

The exclusion of religious services from the exercises of the public schools of New Haven by the Education Board of the city is likely to be a subject of discussion for a long time. It opens the whole question of the relation of the Christian religion to the State. In their protest against the decision of the majority, the minority of the board draw a distinction between religious teaching by the State and the State's recognition of religion. They put the case thus: "If any thing is to be taught other than the use of the alphabet and the processes of arithmetic, with perhaps the higher branches of mathematical science, the teacher and the text-book (if there be one) must recognize religion as an element of human nature; as a fact and a dominant factor in all history; as implied in governments, laws, and the being of society; as an influence pervading the literature of all languages in all ages; and as modifying to-day the thinking, the morals, the usages, the institutions, and the national character of every people under heaven." They make a good point, also, when they declare that if the recognition of religion is religious teaching, the exclusion of religion is anti-religious teaching. The New Haven Board appear to have forgotten that education by the State has value only so far as it is a help to the formation of character. The interest of the State is in the character of its future citizens: why, then, should it refuse to teach morals, and exclude from the schools the book which is the most powerful agent in the formation of right character known to the world?


Tin foil before use
After use
Under side of mouth piece—showing vibrating disc and point.
Funnel for increasing sound
Phonograph ready for use
Reproducing Speech
Talking to the Phonograph
Placing Tin foil on Cylinder

THE PHONOGRAPH.—FROM A SKETCH BY C. A. KETELS.—[SEE PAGE 249.]

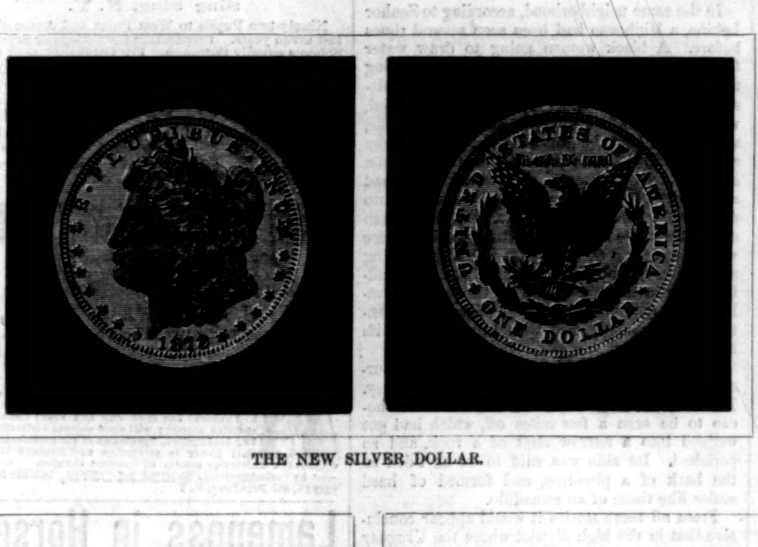


THE HOT SPRINGS OF ARKANSAS—VIEW OF THE BURNED DISTRICT.—[From a Photograph by J. W. Clary.]

HOT SPRINGS.

Only a short time ago the *Weekly* gave an illustrated account of the beautiful and popular health resort, the Hot Springs of Arkansas. In this number we present a striking contrast of the same place in ruins. About two o'clock in the morning of the 5th of March a fire broke out in a negro shanty which stood in the rear of a restaurant in the very heart of the village. The flames spread rapidly in all directions, and were soon beyond the control of the only fire-engine in the place. They swept the narrow valley of every building for a distance of half a mile, leaving not the merest vestige of a house or store in what had been the business centre of the town. But little property was saved. About 150 buildings were destroyed, and over 1000 persons made homeless. Fortunately no lives were lost, and no one was seriously injured. The loss is estimated at $300,000, a very small part of which is covered by insurance.

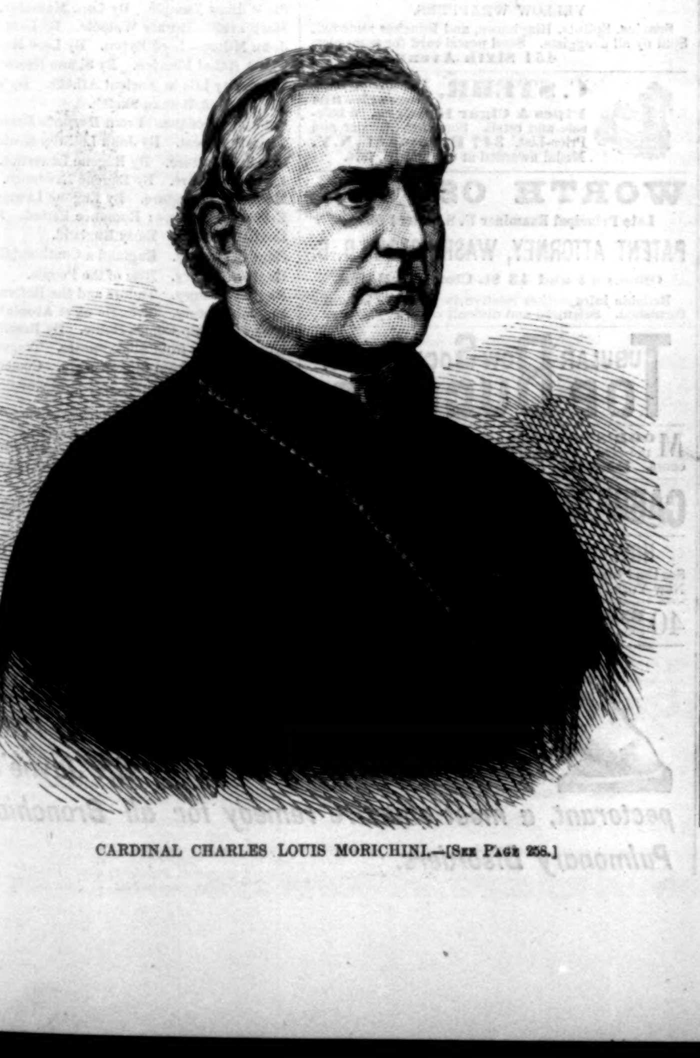
Fortunately for strangers in the town, there were but few hotels or boarding-houses in the burned district, and ample accommodations remain for all who may wish to visit the springs. But there is great distress among the families who have lost their homes and property, and pecuniary assistance from other parts of the country is still needed to avert suffering.



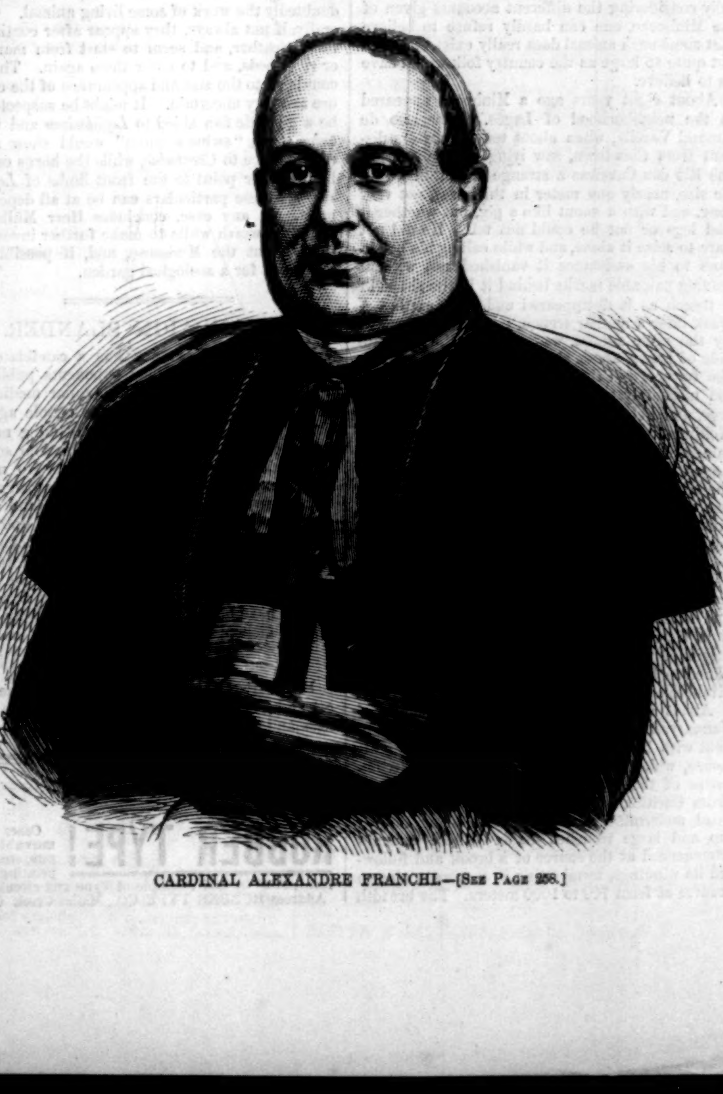
THE NEW SILVER DOLLAR.

THE NEW DOLLAR.

The design of the new silver dollar, of which we give an engraving, is very neat and graceful; but the motto, "In God we trust," retained from previous coinages, is the subject of a great deal of good-natured bantering. The *Christian Union* suggests that the words, "Forgive us our debts," ought to be added. The New York *Mail* thinks the 412¼-grain men will "find hereafter that there is no reciprocity in the sentiment." Another paper, quoting the motto, adds, "With about eight per cent. off." The Cincinnati *Commercial* alone of the newspapers we have seen treats the subject in a spirit of serious fault-finding, painful to witness in so stanch an advocate of the new dollar. Speaking of the design, that journal remarks: "We can not say the art of it 'makes us feel to



CARDINAL CHARLES LOUIS MORICHINI.—[See Page 258.]



CARDINAL ALEXANDRE FRANCHI.—[See Page 258.]

rejoice.' The eagle, we understand, was drawn by an Englishman. We should think so, too, from appearances. It doesn't seem to resemble the bird of our country. In fact, we are afraid the thing is a British grouse. There is also an absurd prominence given the 'In God we trust,' which is a new thing in our coinage. The words should be, 'One hundred cents.'" But that, as the Hartford *Courant* justly remarks, "would be more of a—of a—whopper than the other."

THE PAPAL COURT.

WE give on the preceding page the portraits of Cardinals FRANCHI and MORICHINI, the first of whom has been appointed Pontifical Secretary of State, and the second Camarlingo or Chamberlain. Cardinal FRANCHI was born in Rome on the 15th of June, 1819, and is now in his fifty-ninth year. Until his recent appointment he was Prefect-General of the Sacred Congregation of the Propaganda of the Oriental Rite. He is a handsome man, of fine address, and, when Nuncio in Madrid, was a great friend of Queen ISABELLA. When, in 1856, he was nominated a bishop, her Majesty sent him a mitre, an episcopal cross, a chain, a clasp, a ring, and, in short, an entire episcopal equipment, mounted with diamonds and pearls of enormous value. Son of a notary, his Eminence has retained all the habits of that profession in the transaction of business, and his long familiarity with court life has imparted to his manners high distinction. Clever and witty, smiles and *bonmots* cost him little. He bears, however, the reputation of being personally unlucky, a sort of political *jettatore* (evil-eye). He was in Florence when the Grand Duke was driven away from it, and at Madrid when Spain got rid of ISABELLA. After the death of PIUS IX. his name was frequently mentioned in connection with the vacant chair.

Cardinal MORICHINI was born in Rome November 21, 1805, and is now in his seventy-third year. He was created a cardinal in 1872, and is besides Bishop of Ostria and Villeti. It is said he determined to become a priest after contemplating RAPHAEL's famous picture "Theology." He is in very bad health, and is too feeble to walk without support. His eyesight is nearly gone, and his utterance is thick, like that of a person whose tongue is half paralyzed; but his mind remains perfectly clear. Before the election of the present Pope it was currently reported that Cardinal MORICHINI was the preferred candidate of the Germans and Italians. It was thought not improbable that an aged and infirm candidate would be chosen, in order that the new Pope might not long stand in the way of a possible change in the political attitude of the Papal Church.

A NEW UNDER-GROUND MONSTER.

A RECENT communication from Fritz Müller, of Itajahy, in Southern Brazil, to the *Zoologische Garten*, contains a wonderful account of the supposed existence of a gigantic earth-worm in the highlands of the southern provinces of Brazil, where it is known as the Minhocao. The stories told of this supposed animal, says Fritz Müller, sound for the most part so incredible, that one is tempted to consider them as fabulous. Who could repress a smile at hearing men speak of a worm some fifty yards in length and five in breadth, covered with bones as with a coat of armor, uprooting mighty pine-trees as if they were blades of grass, diverting the courses of streams into fresh channels, and turning dry land into a bottomless morass? And yet, after carefully considering the different accounts given of the Minhocao, one can hardly refuse to believe that some such animal does really exist, although not quite so large as the country folk would have us to believe.

About eight years ago a Minhocao appeared in the neighborhood of Lages. Francisco de Amaral Varella, when about ten kilometers distant from that town, saw lying on the bank of the Rio das Caveiras a strange animal of gigantic size, nearly one meter in thickness, not very long, and with a snout like a pig, but whether it had legs or not he could not tell. He did not dare to seize it alone, and while calling his neighbors to his assistance it vanished, not without leaving palpable marks behind it in the shape of a trench as it disappeared under the earth. A week later a similar trench, perhaps constructed by the same animal, was seen on the opposite side of Lages, about six kilometers distant from the former, and the traces were followed, which led ultimately under the roots of a large pine-tree, and were lost in the marshy land. Herr F. Kelling, from whom this information was obtained, was at that time living as a merchant in Lages, and saw himself the trenches made by the Minhocao. Herr E. Odebrecht, while surveying a line of road from Itajahy into the highlands of the province of Santa Caterina, several years ago, crossed a broad marshy plain traversed by an arm of the river Marombas. His progress here was much impeded by devious winding trenches which followed the coarse of the stream, and occasionally lost themselves in it. At the time Herr Odebrecht could not understand the origin of these peculiar trenches, but is now inclined to believe that they were the work of the Minhocao.

About fourteen years ago, in the month of January, Antonio José Branco, having been absent with his whole family eight days from his house, which was situated on one of the tributaries of the Rio dos Cachorros, ten kilometers from Curitibanos, on returning home found the road undermined, heaps of earth being thrown up and large trenches made. These trenches commenced at the source of a brook and followed its windings, terminating in a morass after a course of from 700 to 1000 meters. The breadth of the trenches was said to be about three meters. Since that period the brook has flowed in the trench made by the Minhocao. The path of the animal lay generally beneath the surface of the earth under the bed of the stream; several pine-trees had been rooted up by its passage. One of the trees, from which the Minhocao in passing had torn off the bark and part of the wood, was said to be still standing and visible last year. Hundreds of people from Curitibanos and other places had come to see the devastation caused by the Minhocao, and supposed the animal to be still living in the marshy pool, the waters of which appeared at certain times to be suddenly and strangely troubled. Indeed, on still nights, a rumbling sound like distant thunder and a slight movement of the earth were sensible in the neighboring dwellings. This story was told to Herr Müller by two eye-witnesses—José, son of old Branco, and a step-son who formerly lived in the same house. Herr Müller remarks that the appearance of the Minhocao is always supposed to presage a period of rainy weather.

In the neighborhood of the Rio dos Papagaios, in the province of Paranà, one evening in 1849, after a long course of rainy weather, a sound was heard in the house of a certain João de Deos, as if rain were again falling in a wood hard by, but, on looking out, the heavens were seen to be bright with stars. On the following morning it was discovered that a large piece of land on the further side of a small hill had been entirely undermined, and was traversed by deep trenches which led toward a bare open plateau covered with stones, or what is called in this district a "legeado." At this spot large heaps of clay turned up out of the earth marked the onward course of the animal from the legeado into the bed of a stream running into the Papagaios. Three years after, this place was visited by Senhor Lebino José dos Santos, a wealthy proprietor, now resident near Curitibanos. He saw the ground still upturned, the mounds of clay on the rocky plateau, and the remains of the moved earth in the rocky bed of the brook quite plainly, and came to the conclusion that it must have been the work of two animals, the size of which must have been from two to three meters in breadth.

In the same neighborhood, according to Senhor Lebino, a Minhocao had been seen several times before. A black woman going to draw water from a pool near a house one morning, according to her usual practice, found the whole pool destroyed, and saw a short distance off an animal, which she described as being as big as a house, moving off along the ground. The people whom she summoned to see the monster were too late, and found only traces of the animal, which had apparently plunged over a neighboring cliff into deep water. In the same district a young man saw a huge pine suddenly overturned, when there was no wind and no one to cut it. On hastening up to discover the cause, he found the surrounding earth in movement, and an enormous worm-like black animal in the middle of it, about twenty-five meters long, and with two horns on its head.

In the year 1849 Senhor Lebino was on a journey near Arapehy, in the State of Uruguay. There he was told that there was a dead Minhocao to be seen a few miles off, which had got wedged into a narrow cleft of a rock, and so perished. Its skin was said to be as thick as the bark of a pine-tree, and formed of hard scales like those of an armadillo.

From all these stories it would appear conclusive that in the high district where the Uruguay and the Paranà have their sources, excavations and long trenches are met with, which are undoubtedly the work of some living animal. Generally, if not always, they appear after continued rainy weather, and seem to start from marshes or river-beds, and to enter them again. The accounts as to the size and appearance of the creature are very uncertain. It might be suspected to be a gigantic fish allied to *Lepidosiren* and *Ceratodus*; the "swine's snout" would show some resemblance to *Ceratodus*, while the horns on the body rather point to the front limbs of *Lepidosiren*, if these particulars can be at all depended upon. In any case, concludes Herr Müller, it would be worth while to make further investigations about the Minhocao, and, if possible, to capture it for a zoological garden.

A CAMPAIGN SLANDER.

WHEN Dr. R. V. PIERCE was a candidate for State Senator, his political opponents published a pretended analysis of his popular medicines, hoping thereby to prejudice the people against him. His election by an overwhelming majority severely rebuked his traducers, who sought to impeach his business integrity. No notice would have been taken of these campaign lies were it not that some of his enemies (and every successful business man has his full quota of envious rivals) are republishing these bogus analyses. Numerous and most absurd formulas have been published, purporting to come from high authority; and it is a significant fact that no two have been at all alike—conclusively proving the dishonesty of their authors.—[*Com.*]

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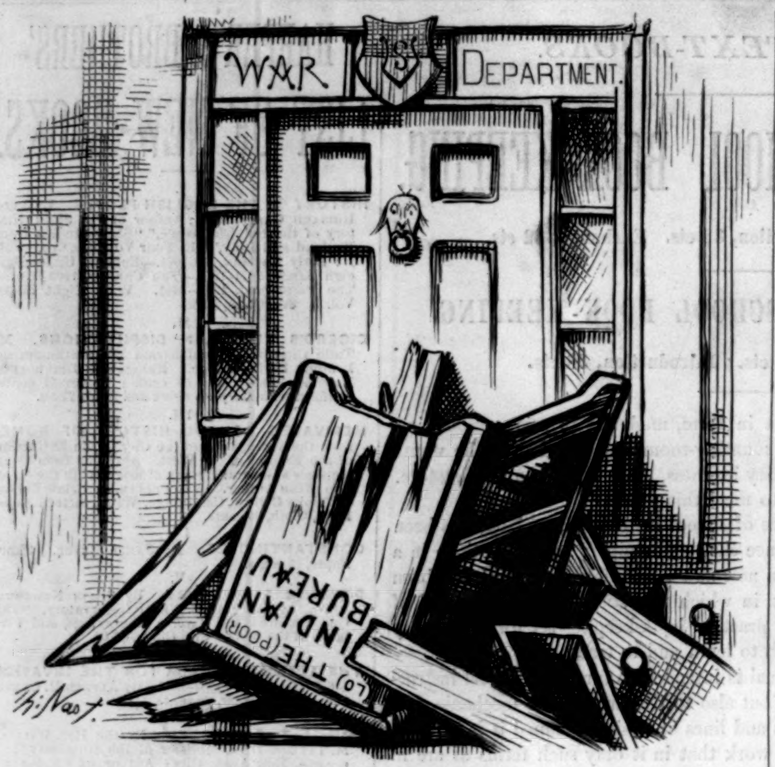
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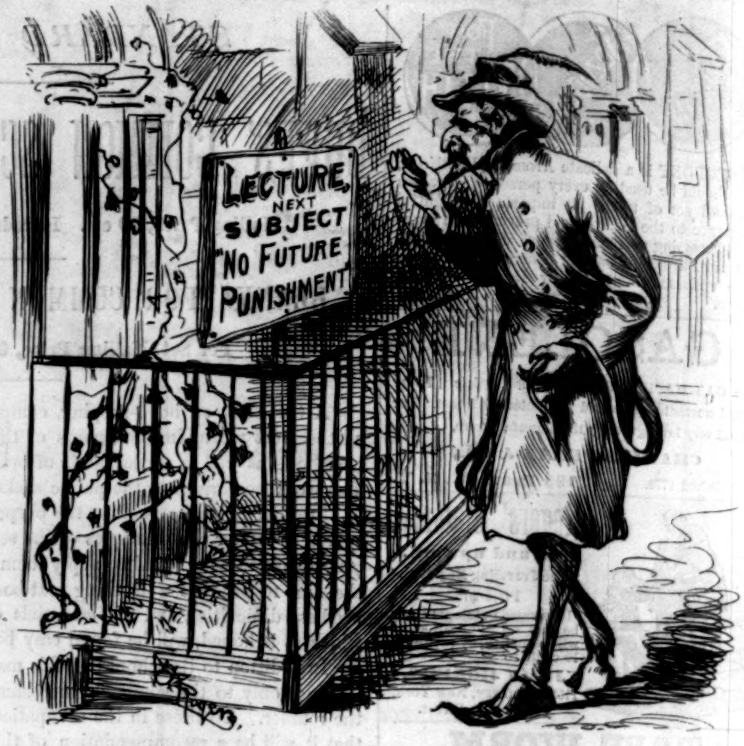
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This is one of those books which deserve and are sure to receive a hearty welcome: a full and accurate *résumé* of the subject treated, prepared and brought down to date by one who is a master of the science, and at the same time a clear and vigorous writer. It is a book which ought to be in the library of every intelligent person as a standard authority, safely to be referred to on any topic within its scope; and yet it is not heavy or dull, but, for the most part, as readable and interesting as a work of fiction. * * * The work is neither abstruse and dry, nor, on the other hand, is it puerile and fanciful, as sometimes happens when *savans* attempt to popularize their favorite sciences and write down to what they conceive to be the level of the common intelligence. The plan is logical, the due proportions of different portions of the subject are observed, and the style is clear, forcible, and sufficiently picturesque and stimulating to keep the attention without effort.—Professor Charles A. Young, *in the Independent,* N. Y.

The author is a master of all the theories and lore of his beloved science, and he has at command the unrivalled instruments of the United States Naval Observatory at Washington. He is an unwearied investigator and professional enthusiast (in the best sense of the word), and writes an English which all people can understand. Parade and pedantry are wholly absent from this work.—*N. Y. Journal of Commerce.*

The problem of adapting the facts and principles of a most intricate science to the understanding of the ordinary reader has been earnestly undertaken and successfully solved in this work. * * * The entire volume bespeaks the well-known ability of its author, and furnishes a new title to his world-wide reputation.—*Boston Transcript.*

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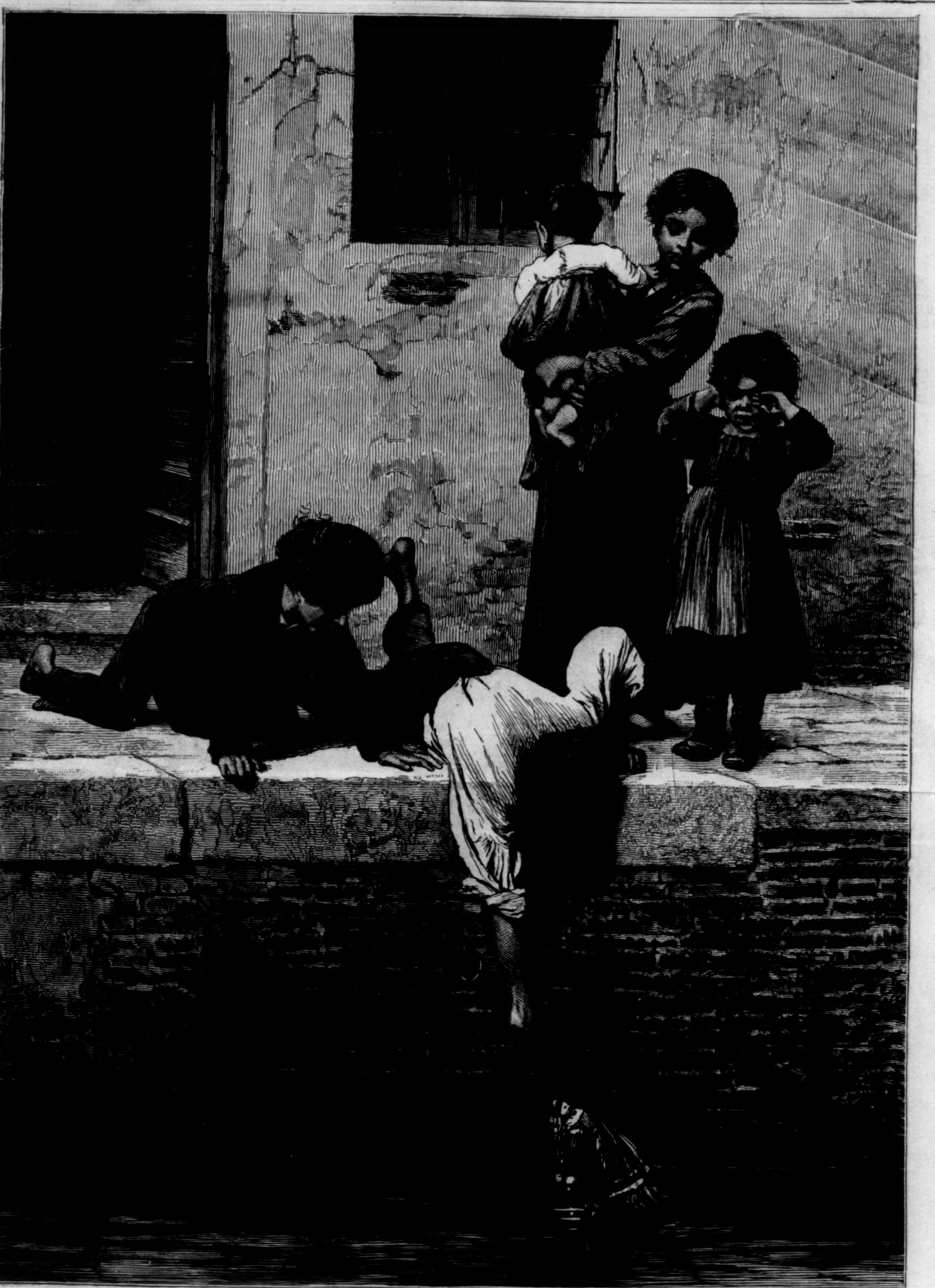


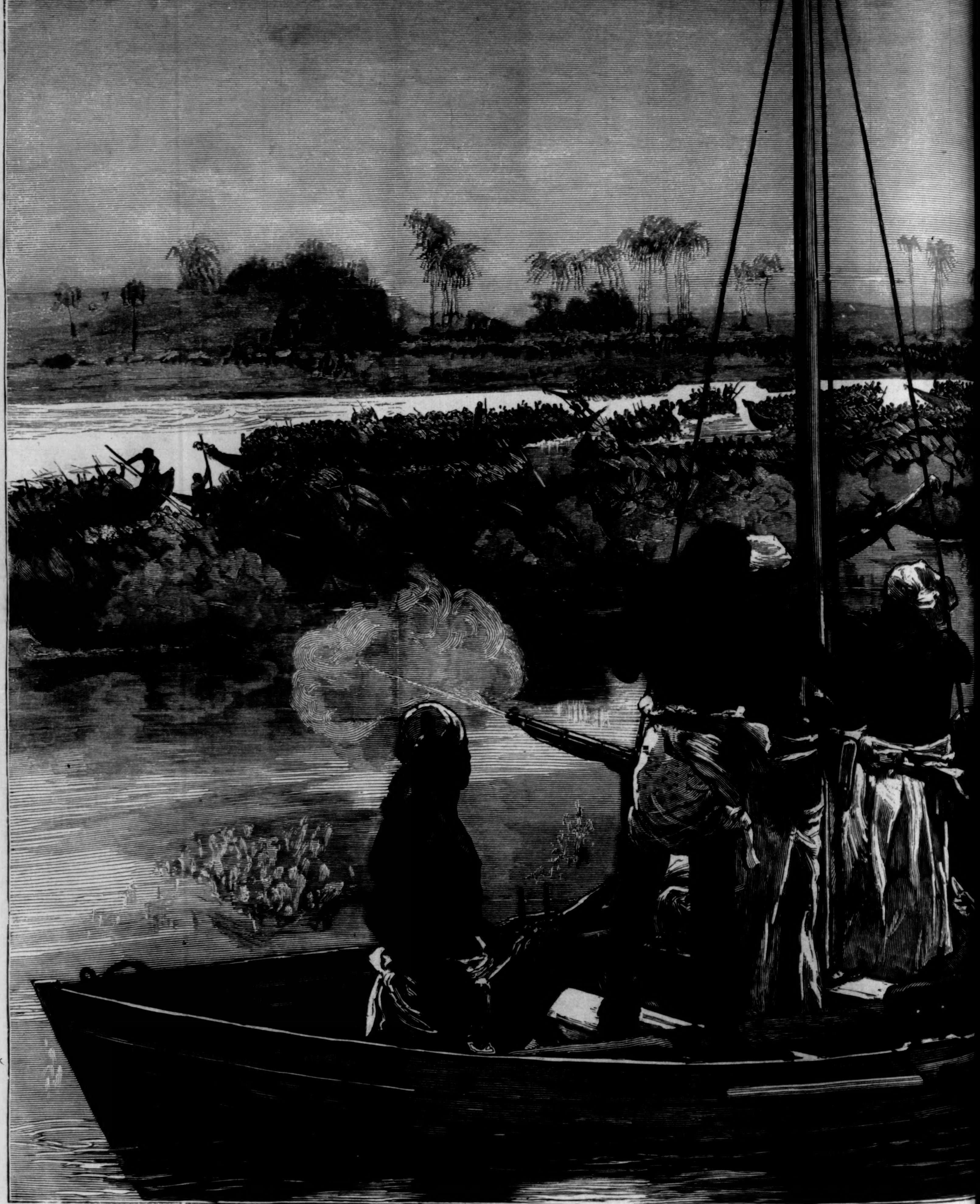
"TO THE RESCUE."—[FROM A PAINTING BY L. PASSINI.]

STANLEY IN AFRICA.

NOT the least interesting of STANLEY'S adventures in Central Africa occurred during his exploration of the Congo—the river now proved to be identical with the Lualaba of LIVINGSTONE, and hereafter, if the suggestion of its explorer be adopted, to bear the name of that devoted missionary. STANLEY'S first work among the wilds of savage Africa was to find LIVINGSTONE. This he accomplished, and returned to England triumphantly, bearing the note-books and journals of the great and good man. His second undertaking was the thorough exploration of the mighty stream that empties its waters into the Atlantic on the west coast of the great continent. "CAMERON," says STANLEY, in referring to that explorer's journey from the east coast of Africa to the west, "had left the question of the Lualaba exactly where LIVINGSTONE had left it. For the point in dispute was, 'Is the Lualaba the Congo or the Nile?' The only way to resolve the doubt is to travel down the Lualaba along the right bank to a known point."

STANLEY dates his determination to solve the mighty mystery of the Congo at a moment when, reposing in his tent on the shores of the Lualaba, he watched the great torrent of water passing by him into the depths of that forest whither no man living had ever dared to follow it. In a letter to the London *Daily Telegraph* he says: "We began to put up our faithful boat, the *Lady Alice*, and in two hours she was launched for the first time on the Lualaba. My tent was pitched close to the boat, and a comfortable plot of soft young grass induced repose, where I could contemplate the calm, majestic river and my picturesque surroundings—isles of undying verdure, long black winding walls of great trees. It was here the resolution never to abandon the Lualaba until it revealed its destination was made. I mustered all my people and Arab escort, and pointing the great river to them, I told them—for the sight of that mysterious stream had warmed me to a high pitch of enthusiasm: 'This great river has flowed on thus since the beginning through the dark wild lands before us, and no man, either white or black, knows whither it flows; but I tell you solemnly that I believe the One God has willed that this year it shall be opened throughout its whole length, and become known to all the world. I do not know what lies before us. We may meet very bad people; we may suffer hunger; we may die. We are in the hands of Heaven. I hope for the best. As we do not come for war, we may make friends of the people; we have enough property, with care, to last a long while, and to buy the friendship of chiefs. You, my people, will therefore make up your minds that I am not going to leave this river until I reach the sea. You promised at Zanzibar, two years ago, that you would follow me wherever I wanted to go for two or three years. We have still a year before us; but I promise you we shall reach the sea before the year is out. All you have to do, then, is to say, "In the name of God," and follow me.' The young men, in number about fifty, stepped briskly up and shouted out, 'In the name of God,' adding, 'Inshallah! Master, we will follow you, and reach the sea;' but the oldest had many misgivings, and shook their heads gravely."

In spite, however, of the doubts of his faithful



MR. H. M. STANLEY'S ANGLO-AMERICAN EXPEDITION FOR THE EXPLORAT

band of followers, STANLEY accomplished his difficult undertaking triumphantly, and a short but comprehensive summary of his experiences during his perilous journey from Nyangwé to the west coast was given in the *Weekly* of March 9, in connection with a graphic sketch of the rapids of the Congo as they were passed by the exploring party at one point. Previous to STANLEY's investigations only the course of the lower part of the river was certainly known. Its mouth was discovered in 1484 by the Portuguese traveller DIEGO CAM, who set up on the southern side of it one of the "Padraos" pillars, by means of which the Portuguese were accustomed to mark their discoveries. Hence the great river was known in Portugal as the Rio de Padrao, though the natives living near its mouth called it the Zairé. Subsequently, however, it became familiar to Europeans as the Congo, on account of its forming the northern boundary of the kingdom called by that name. At its mouth the river has a width of six miles, with a depth in mid-channel of one hundred and fifty fathoms, and the great volume and force of its current effectually prevent the formation of a bar or delta. For many miles out at sea the surface water opposite the mouth of the Congo is perfectly fresh. At Bomma, or Embomma, sixty miles up from the coast, the width and strength of the river may be estimated from the fact that it requires half an hour to cross it in a good boat with ten strong Kroomen paddling. At one hundred miles upward it still has a depth of fifty fathoms, but at a hundred and forty miles from the sea the Yellala cataracts begin, and for forty-six miles beyond this the river descends by a narrow gorge through the mountains which here form the margin of the African plateau, and its channel is interrupted by almost continuous rapids. Inland, beyond these falls, at the farthest point reached by Captain TUCKEY during his great expedition in 1816, the grand river opens out again to a width of four or five miles, and flows with a velocity of three or four miles an hour. For more than sixty years "TUCKEY's farthest" marked a limit beyond which it seemed impossible to advance from the west coast, and the question of the direction of the river and of its tributaries and sources remained a mystery.

Now, however, the secret of the Congo, like that of the Nile, has been revealed. In the completion of his brave journey across Equatorial Africa STANLEY solved this, the last of the greater problems of African hydrography. Briefly, then, this great river flows in a northerly direction from Nyangwé, latitude 4° 16′ south, longitude 26° 5′ east, to within a short distance of the equator, where it turns northwest, then west, taking, a little south of two degrees north, a southwesterly course, which it maintains until it issues on the west coast of
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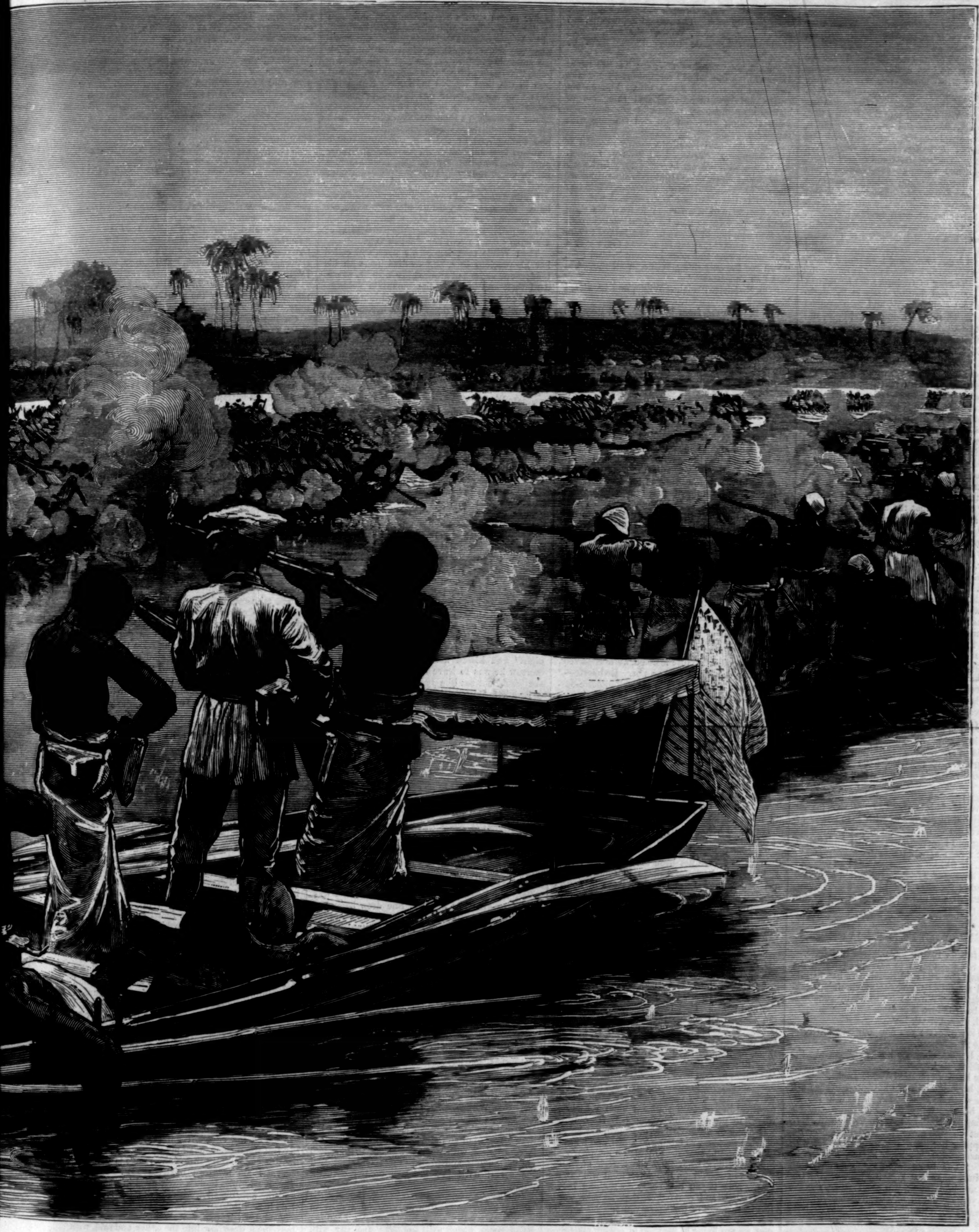

ORAT OF CENTRAL AFRICA—"BANGALA COURTESIES"—FIGHT WITH THE BANGALA.

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has its origin as the Chambeze, to the east of Lake Nyassa, and under many names, and receiving many tributaries, flows thence through lakes Bangweolo and Mweru, past Nyangwé, interrupted occasionally by falls and twice by long rapids, north and northwest to near two degrees north, west and southwest to the Atlantic Ocean—a course of somewhere about 3000 miles. Its basin will thus be included between eighty-two degrees east and the west coast of Africa, and twelve degrees south and probably five degrees north, or further—an area of something like 900,000 square miles.

Along its course the great river receives many tributaries from both sides, some of them not very much smaller than the main stream itself. One of them, coming from the northeast, the Aruwimi, and joining the main stream at one degree north, is supposed to be the Wellé of SCHWEINFURTH—a broad stream discovered by that explorer in the region to the northwest of the Albert Nyanza. To the west of this river, and flowing from the same direction, is a smaller stream, known as the Mangala, named probably from the tribe that inhabits its shores. With this people, about the initial letter of whose name there is some indistinctness, STANLEY had considerable difficulty. The Mangala, or Bangala, proved to be not only a hostile tribe, but one familiar with the usages of civilized warfare, as was proved by a well-directed shot sent into STANLEY'S own boat, by way of welcome, as he approached their shores. The story of the fierce encounter with these savages, which forms the subject of our double-page engraving, is, however, best told in the explorer's own words: "On the 14th of February we lost the island channels, and we were taken—too late to return—along a current which bore us toward the right bank, to the powerful tribe of Mangara, or Mangala, of which we had heard so much, sometimes as very bad people, at other times as great traders. The fact that they pursued trade caused us to imagine that we should be permitted to pass by quietly. We were wofully deceived. Despite the war drums and horns summoning the tribe to war, as it was near noon, and a bright sun shone, and there was sufficient stretch of river to take a good observation, I would not lose such a splendid opportunity to fix the position of this important locality. I ascertained it to be north latitude 1° 16′ 50″; by account, 21° east longitude. I closed my sextant, and put it away carefully, and then prepared to receive the natives—if they came for war, with war; if they came for peace, with gifts. We cast loose from Obs Island and started down stream. Sixty-three canoes of light, even elegant, make very soon approached. Some of the natives were gorgeous in brass decorations, and they wore head-dresses of the skins of white goats, while skins of the same color hung down their shoulders like short man-